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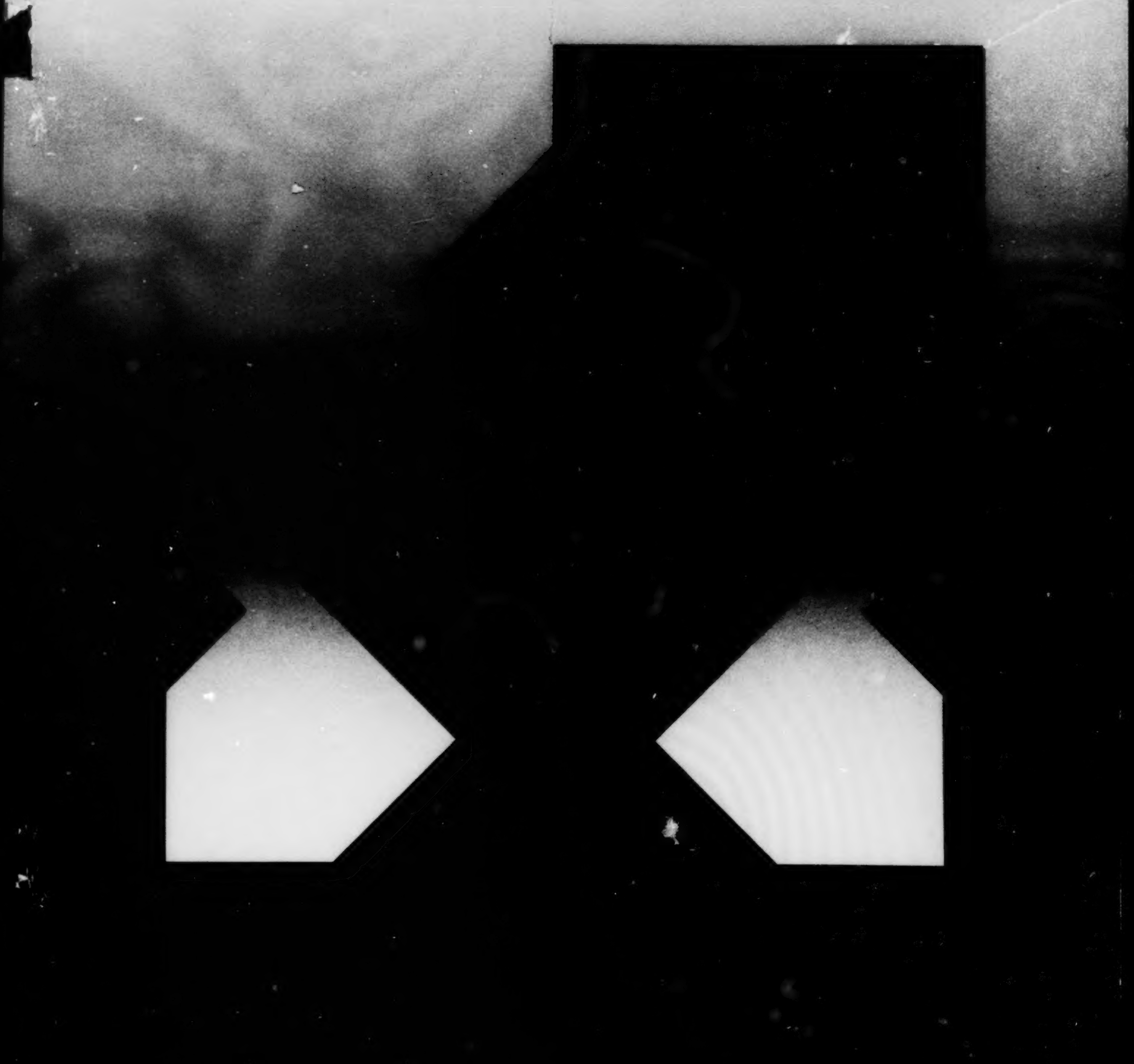

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HOUSING CHOICES FOR CANADIANS OVER 75 YEARS OLD

Prepared for the

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HOUSING CHOICES FOR CANADIANS OVER 75 YEARS OLD

EXECUTIVE SUMMARY

This report looks at housing choices for Canadians over 75 years of age and provides a critical description of a variety of innovative approaches. The report is organized in such a way as to give the reader an overview of many housing related issues particularly as they pertain to older seniors. The information was assembled using a variety of sources including key informant contacts, the most current literature on the subject and the results from the recent Canada Mortgage and Housing Conference, "Options: Housing for Older Canadians" held in Halifax, Nova Scotia Oct. 17-20, 1988.

In order to fully appreciate which housing solutions are most appropriate for people over 75 years of age and why, a number of discussions are presented. These include:

(1) A profile of the target population - Using data collected by Statistics Canada, the Canadian population over 75 years old is described in terms of place of residence, language, gender, living arrangements, income, type of housing and health related difficulties. In some instances comparisons are made to younger age cohorts; in other cases trends over time and future predictions are depicted.

(2) A discussion of the effects of aging and the need for assistance - The report reviews consistent findings from a variety of sources that describe what happens to people as they age in terms of their physical, social and psychological makeup and how these changes determine the need for assistance with some of the activities of daily living in later years. The discussion also focuses on some of the prevalent social, economic and geographic factors that influence the need for assistance.

(3) The barriers to independence - In order for community based housing options to be alternatives, they must be able to address some of the prevalent risk factors for institutionalization, and thus the study looked at some of the commonly found factors including health, social support, the interaction between health and social support, as well as the issue of loneliness as a risk factor.

(4) Acceptance and success criteria - In arriving at the criteria for acceptance and success, a number of perspectives were considered, including the housing preferences of older consumers, the reasons why older seniors choose to move or stay, the types of choices that are made in terms of housing related amenities, and the factors that affect consumer satisfaction with respect to both community as well as dwelling characteristics. The prerequisites to success such as consumer and provider awareness, and the roles of both the private and public sector are also discussed.

(5) The evaluation of available options - Numerous available housing options are discussed in light of how well they meet the criteria for acceptance and success. It is recognized throughout that housing solutions for the over 75 population must be able

to bring together both shelter and support services. They must also be available to people who wish to stay in their own home as well as those who choose to move.

(6) The most promising new directions - Promising new approaches are presented that maximize community resources as well as support from family, friends and neighbors. These include support service initiatives that help people remain in their own homes, such as assistance with home modifications, ways to link the security of a hospital to the home, innovative caregiver support programs and new directions in the co-ordination and delivery of services to the high risk 75+. Promising solutions for those who choose to move closer to family, such as the garden suite, are also discussed, as well as a variety of more recently developed options for older seniors who wish to live among their peers, including adult foster care, congregate and sheltered housing, and assisted living, among others.

The report does not recommend one option over another. Canadians over 75 years of age are (and will continue to be) a very heterogeneous group of people with differing needs. This study encourages the promotion of many new options to meet these needs.

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INTRODUCTION

This report focuses on housing choices for Canadians over the age of seventy-five and is complementary to a major study, "Accommodation Options for Elderly Canadians", recently completed by Canada Mortgage and Housing Corporation, designed to examine a wide range of housing alternatives for older Canadians. The over 75 population in Canada is targeted since persons in this age group are more vulnerable to a loss of independence in their living arrangements. There is a concern that not enough is known, however, about which housing options best meet the needs of older persons and which delivery mechanisms are most effective in making new options a reality. As a result, CMHC commissioned this study aimed at identifying and evaluating available housing options for the 75+ in Canada, and based on these evaluations, drawing attention to innovative forms of housing and support service arrangements for this group.

This study does not duplicate earlier efforts by CMHC, but rather continues the work by critically examining available options described in other documents, in light of their appropriateness for the 75+ population. Numerous examples of promising approaches are given throughout the report. These case studies are by no means meant to be exhaustive and the authors acknowledge the many other new initiatives that are taking place in Canada and elsewhere.

Social Data Research, a firm specializing in gerontological studies, brought together a team of experts from different parts of Canada with the broad knowledge base necessary for this project, including the research and evaluation expertise, experience in housing and design for seniors, housing management and development background, as well as expertise in the housing and support service needs of older Canadians. The study team, through their combined experiences, through interviews with key informants in the housing field in their geographical region, and a systematic review of existing evaluative research, has arrived at a consensus about which directions should be taken to address the needs of the 75+ population in Canada. References used throughout this report are provided at the end in alphabetical order. Corresponding numbers are used in the text.

BACKGROUND

More Seniors are Living Longer

Much has been written about the aging of our society and the consequences of this demographic trend in terms of numbers and percentages of persons in the upper age groups. The per cent of the population aged 75 and over in Canada is expected to double during the next thirty-five years from 4.1% (1,047,485) of the population in 1986 to 8.3% (2,818,200) in 2021 [152] with only very slight provincial variations.

Recent reports have predicted that the elderly boom may be even greater than expected in North America due largely to improvements in lifestyles and medical knowledge that will see lifespans for men and women extend well into the eighties and nineties. [64] According to the latest Statistics Canada estimates, baby boys and girls born in 1986 can be expected to live an average of 73 and 80 years respectively. [152] However, the fear that an increased life expectancy may also be accompanied by an increase in the number of years of disability for some people is real. [30,102] Another consequence of the aging of our population identified by at least one demographic economist is that the increase in the number of seniors relative to the total population could have a depressive effect on the demand for certain consumer goods such as housing and related expenditures (i.e., furniture, appliances) since people in the oldest age groups traditionally spend less on such items than younger people. [109]

Concern about the increasing proportions of older people has, therefore, resulted in a growing interest on the part of government policy leaders to try to understand the implications of this phenomenon for areas such as health care, community support services, and housing. It is recognized at the outset that housing options for the seventy-five plus cannot be discussed in isolation from health and social community support services.

Increasing Independence in the Community

Most of the current thrust in research and policy initiatives evolves around finding ways to maintain or increase seniors' independence in the community by investigating alternatives to unnecessary institutionalization. There are a number of reasons why this has been the case. First, the majority of Canadians, when given a choice, prefer to remain in their own homes (whether owned or rented). [28,53,105,116]

Second, some researchers argue that helping people stay in their own homes with support services is generally less costly than institutionalization [16,63] although others claim that evaluations with regard to this issue are either non-existent, unscientific, or incomplete. [27, 53,87] Still others maintain that quality of life should not be tied to financial costs at all, 89 and the fact of not being in an institution is not sufficient to guarantee independence and a better existence. [112] Regardless of which viewpoint one takes, many experts believe that the demand for institutionalization is accentuated by the lack of an adequate physical and social environment. [10]

There is also debate as to how Canada compares with other western countries with respect to the rate of institutionalization,[145,67] although the general consensus, in spite of a lack of standardization in measurements, tends to be that Canada's rate is relatively high.[105,112] About 8% of Canada's population over the age of sixty-five, a figure that rises to as high as 36% for those over the age of eighty-five, reside in an institution, according to the 1981 Census.[53,92] In spite of the fact that institutionalization may be necessary and even desirable for some older people, most Canadians remain in their own homes as they age. It seems sensible, therefore, to investigate innovative housing options that maximize the ability for people over the age of 75 to lead independent lives in their own communities and in the settings of their choice.

Innovations in housing for elderly people can be considered to contain three major elements:

(1) innovative financial mechanisms to achieve housing for people in a wide income range;

(2) innovative design that makes it easier for people to "age in place" and to sustain independence;

(3) innovative support systems that acknowledge interdependence, assistance for caregivers, as well as for users of services, and attention to cost controls that make solutions "cost effective".

The challenge in addressing housing innovations for people over 75 is to evaluate not only what already exists and what can be done in the way of adaptations to accommodate aging, but also to identify what can be incorporated into new housing developments that can facilitate aging in place.

PURPOSE

The study addresses four specific objectives originally outlined in the Terms of Reference. They are:

(1) to identify and evaluate current accommodation and support service choices for people over 75 years of age to determine which are proving to be most acceptable and effective;

(2) to identify the characteristics of accommodation and support services that will be important to acceptance of each type of option;

(3) to identify and evaluate potential new options against the criteria for acceptance and success; and

(4) to identify ways of optimizing the benefits of informal support from relatives, neighbors, friends, and voluntary organizations.

METHODOLOGY

General Approach

In order to satisfy the terms and to be able to discern those issues most relevant in identifying and critically evaluating housing solutions for the 75+ population, the study team took an approach that involved a number of phases and the report is organized in a way to reflect this process. The first part of the study is devoted to defining the target group - their profile and their needs. This is followed by a review of those factors most relevant to arriving at the criteria for acceptance and success from both the consumers' perspective as well as the providers' role. The final phase of the research looks at a number of housing related options and assesses their appropriateness for people over age 75 in light of the defined criteria for acceptance and success. A discussion of barriers and examples of how barriers might be overcome is given and potential new options are presented.

Specific Steps Taken

Information for this research was collected in several ways including:

(1) A Literature Review

Relevant secondary sources were reviewed, particularly with reference to any evaluative research carried out on types of housing options most relevant for those elderly over seventy-five. Canadian research, as well as studies from the U.S., Great Britain, and other western countries were reviewed.

(2) Interviews With Key Informants

An important phase of the information gathering process was a series of interviews with selected key informants in the area of housing and support services across Canada. Interviews were conducted by all team members and respondents included:

- provincial and federal government officials

- housing developers and architects

- local housing officers

- seniors' groups

Interviews were unstructured in nature. Respondents were questioned with respect to the housing needs of the 75+ and what they felt were the best ways to meet these needs. As well, informants provided the study team with additional material describing successful approaches in their respective jurisdictions.

(3) Relevant Experiences of the Team Members

All of the team members brought their experiences with seniors' housing -- some in design, development, and the management end, others in research and evaluation -- to the project and these experiences are highlighted in the report, particularly during the consensus process.

(4) Case Studies

A number of case studies were examined. The case studies relate to housing examples familiar to team members which appear to be successful in their approach for Canadians over seventy-five. The case studies were analyzed and trends were noted in the discussion wherever appropriate.

(5) Consensus Conference

A consensus conference was held several months after the project began in order that all team members could agree on the most relevant issues, criteria, and possible solutions for housing the 75+ population. A consensus day, or "nominal group process" as this procedure is also called, is a structured meeting that attempts to provide an orderly procedure for obtaining qualitative information from target groups, in this instance the team members, who are most closely associated with a problem area -- namely, housing for seniors over the age of seventy-five.

The consensus process involved a number of phases:

- The first was to agree on the major issues or barriers discussed in the literature that were related to housing those over the age of seventy-five.

- The second was to arrive at a consensus about which of the criteria reviewed in the literature for evaluating seniors' housing needs were most relevant for elderly seniors over the age of seventy-five.

- Third, selected existing housing options for seniors were rated on a scale, according to the individual team members' views, as to how well these options met the ideal criteria for seniors over the age of 75.

- Fourth, ways to make ideal housing solutions a reality were discussed and agreed upon.

(6) Proceedings From "Options: Housing for Older Canadians" a conference sponsored by Canada Mortgage and Housing, Oct. 17-20, 1988 in Halifax, Nova Scotia.

The conference involved housing experts from various jurisdictions and focused on the latest trends in housing for seniors. The proceedings from the conference were reviewed and any relevant material was incorporated in this report.

1.0 DEFINING THE TARGET GROUP

1.1 Profile of the 75+

In order to begin to understand why people over seventy-five may have special housing needs, recent data from several sources are summarized. Table 1.1 below and additional tables throughout this section present the results of some selected special tabulations from the General Social Survey (Statistics Canada, 1985) and compares seniors over the age of 75 with two younger cohorts. The percentages are based on a weighted sample size of 1,147,221 for those aged 60-64; 1,572,573 for those aged 65-74; and 899,839 for persons 75 years of age and over.

As Table 1.1 shows, the largest numbers of the 75+ in Canada live in Ontario and Quebec and speak English or French, however, a proportionately high percentage (at almost 20% about twice as high as those people under age 75) speak another language - a fact that must be considered in the provision of housing related options for this age group.

TABLE 1.1
PROFILE OF CANADIAN SENIORS

PLACE OF RESIDENCE	AGE GROUP		
	60-64 %	65-74 %	75+ %
Per Cent Who Reported:			
Living in Atlantic Region	8	10	9
Living in Quebec Region	26	25	22
Living in Ontario Region	39	36	39
Living in Prairie Region	16	16	18
Living in B.C. Region	11	14	12
LANGUAGE SPOKEN AT HOME			
English	68	71	69
French	22	22	21
Other	10	7	17

There are some other age related differences in the data which are considerably more dramatic than either place of residence or language spoken at home. These differences are described in the following sections.

1.1.1 Living Arrangements and Gender

One of the most striking age related patterns shown in Table 1.1.1 below is the proportionately higher percentage of women and of those living alone among the over 75 compared to the younger cohorts. Almost two-thirds of persons over 75 are women and over one-third live alone. The percentage of persons living with spouses decreases from 76% for those aged 60-64, to only 43% for those over the age of seventy-five. As well, the proportion of seniors who report living with relatives such as a son or daughter is almost double (13%) for those over the age of seventy-five than for younger age groups. This proportion has implications for potential housing options that combine families under one roof or property.

TABLE 1.1.1
PROFILE OF CANADIAN SENIORS

GENDER	AGE GROUP		
	60-64 %	65-74 %	75+ %
Per Cent Who Reported:			
Being Females	50	54	62
Being Males	50	46	38
LIVING ARRANGEMENTS			
Per Cent Who Reported:			
Living with Spouse	76	63	43
Living Alone	14	24	36
Living with Non Relatives	2	3	4
Living with Relatives	2	7	13

The propensity to live alone, particularly for elderly women, increased significantly between 1971 and 1986. In 1971, 26% of Canadian women 75+ reported living alone. By 1986, this figure had risen to 38%.[132] At the same time there was a decrease in the percentage of women 75+ living with someone other than a spouse (from 13% to 8%) and an increase in institutionalization (from 14% to 20%).[132] If these past trends continue, experts at Statistics Canada predict that elderly men and women will increasingly live alone or in institutions. In fact, it is estimated that close to one-half of women aged 75+ will live alone in 2001.[132]

1.1.2 Income and Housing

Other pronounced trends pertain to the amount of money older seniors have to spend and whether or not they own or rent a home. Both income and home ownership decreases with age and, as Table 1.1.2 shows, the General Social Survey found that respondents over the age of seventy-five were more likely to live in high rise buildings and less likely to live in a detached home or own their own home than their younger cohorts.

The overall average annual income for seniors is reduced in each age cohort, however, more revealing is the dramatic drop in the percentage of the elderly in the highest income bracket after age seventy-five. While almost 20% of people aged 60-64 report an income of over $3000 per month, this drops to only 5% for those over 75 in the survey.

TABLE 1.1.2
PROFILE OF CANADIAN SENIORS

HOUSING	**AGE GROUP**		
	60-64 %	**65-74 %**	**75+ %**
Per Cent Who Reported:			
Being Owners	82	74	65
Living in a Detached House	73	66	57
Living in a High Rise Apartment	7	11	16
INCOME			
Per Cent Who Reported:			
Average Total Family Income under $1000/month	22	36	53
$1000-$2999	60	53	42
$3000 or more	18	12	5

Although the relative income of people over 75 is lower than for people in younger age groups, recent sources from Statistics Canada report that increases in real income (that is income adjusted for inflation) are greater for this age group than for younger cohorts. The average real income of families headed by men aged 75 and over rose 47% between 1971 and 1986, compared with 33% for families headed by men aged 65-74. For single people, the gain was 46% for men 75+ and 70% for women in this age bracket, compared to only 32% for single men aged 65-74 and 58% for women in the younger age group. [100]

Home ownership, while still the choice of the majority, decreases with age. Although the General Social Survey found that over 80% of people between the ages of 60-64 who responded to the survey own their own home, a figure that falls to 65% for those over 75 (see Table 1.1.2), more recent data from the 1986 Census shows that closer to 57% (599,385) of Canadians over the age of seventy-five are in fact home owners compared to 64% for all seniors 65 and over. [150] Home ownership among the elderly, however, has remained fairly constant. The 1981 Census showed that 63% of Canadians sixty-five years of age and over owned their own homes.

One way of looking at the relationship between housing and the financial well being of the elderly is to consider the large role that owning property plays in the overall amount of assets that individuals have. According to the 1984 Assets and Debts Survey by Statistics Canada, the average total assets including the market value of an owner occupied home where applicable was $111,123 for respondents aged 65-74. This figure fell to $73,766 for those aged 75-79 and $68,415 for people over 80 years of age, however, relative to their overall debt ($4,085 and $5,412 respectively), individuals in these age groups may in fact have more financial freedom than those in the pre-retirement years (55-64) whose average debt was $15,851. [151] For people who own their own home, the average value of that home, according to the same survey, was $60,186 for respondents aged 56-74; $57,766 for those aged 75-79; and $53,121 for the oldest age group (80+). Obviously owning a home in pre, early or later retirement years has the potential to add considerably to one's overall assets and provides an opportunity to have more options in later life.

Due to increases in real income, there is some indication that the financial picture, particularly as it relates to home ownership, is improving for seniors. For example, Statistics Canada reports that for both men and women over 75 who live alone, the proportion paying 30% or more of their income on an owned dwelling decreased between 1981 and 1986. For men 75+, a decrease of 4% was realized - from 19% to 15% - and for women the percentage fell from 27% to 21%. [132]

The picture for those seniors that rent is not as positive. For example, in 1971, 56% of male renters over the age of 75 paid at least one-third of their income on housing, and although this figure dropped to just over forty percent (41.5%) in 1981, by 1986 it had risen to almost 47%. Similarly for female renters, 77% of those over 75, a figure considerably higher than for males, paid at least one-third of their income for shelter in 1971. This proportion dropped dramatically to about 48% in 1981, but by 1986 had risen several percentage points (to 52.5%). [132]

1.1.3 Health and Difficulties with Day to Day Living

Another area where the over 75 population differ quite significantly from Canadians under 75 years old is in their reported health and related difficulties with the activities of daily living. Table 1.1.3 clearly shows how the incidence of health related problems increases with age, and in fact fully 40% of seniors over age 75 report fair or poor health. The same percentage have trouble walking, particularly up and down stairs, a proportion about twice as high as in younger age groups. Cutting toenails, seeing newsprint and hearing conversations are all considerably more of a problem for people over 75 than those younger. It is not surprising to find that activities such as heavy housework, making regular meals and personal care are also more of a chore for older seniors.

TABLE 1.1.3
PROFILE OF CANADIAN SENIORS

HEALTH RELATED FACTORS	AGE GROUP		
	60-64 %	65-74 %	75+ %
Per Cent Who Reported:			
Fair or Poor Health	31	35	43
Having Trouble Walking	13	21	42
Having Trouble with Stairs	20	27	44
Having Trouble Cutting Toenails	11	21	43
Having Trouble Seeing Newsprint	6	9	20
Having Trouble Hearing Conversations	15	21	34
Having Difficulties with Heavy Housework	12	23	47
Having Difficulty Making Meals	4	8	18
Needing Help with Personal Care	<1	3	8

According to the Health and Activity Limitation Survey conducted by Statistics Canada in 1986 and 1987, the vast majority of Canadians over the age of seventy-five who were considered disabled by the definition of the survey* are residing in ordinary households in the community. About

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* The survey uses the World Health Organization's definition of disability which is....any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being...Statistics Canada 1988.

70% of disabled women over age 75 live in households and 30% live in institutions. Only 20% of disabled men over 75, however, live in institutions (according to the survey), while 80% live in ordinary households.

In summary, it is clear that many people over the age of 75 have some health and income related difficulties not experienced to the same extent by younger seniors. And, at the same time, there is a trend towards more and more people over 75 years old living alone or in institutions. Housing solutions that are meant to address the needs of the over 75 population in Canada must be able to provide alternatives for higher risk people with potentially changing health related needs.

1.2 Effects of Aging and the Need for Assistance

The preceding profile has shown that people over the age of seventy-five have some characteristics that are not as prevalent in younger age groups. The process of aging varies from individual to individual, however, what happens to people as they become older - physically, psychologically and socially, determines to a great extent whether they will have any special needs in their later years.

There is a general consensus in the literature that as people age certain life restrictions or "age losses" take place. [127] For instance, beginning with retirement, the formal occupational role is either reduced or lost, along with income and children who have left home. The death of a spouse and friends occur and after age 75 there is often a loss of health and increasing loss of sensory activity.

1.2.1 Physical Changes

Some of the more specific physical changes that commonly occur to many people after age 75 (and sometimes earlier) include a loss in body weight and stature; a greater level of fatigue; a loss of speed of movements; a loss of strength; difficulty stepping up and down; difficulty manipulating or holding objects; difficulty with spatial orientation; limited reach; visual, hearing and stability problems; and a sensitivity to heat, coldness and change in temperature. [114]

Even though most people over the age of 75 subjectively rate their health as good, the majority have at least one limiting disability. Arthritis and rheumatism are the most common complaints, however, high blood pressure, circulation and heart troubles are also frequently mentioned. [25]

1.2.2 Social and Psychological Changes

Socially, older seniors may be less adaptable to changes in lifestyle and have a smaller network of family and friends. They may also become more concerned about physical and psychological security, and fear accidents and failing health. [114] With some people over the age of seventy-five, there is also a loss of mental functioning. This may range from very minimal and occasional memory losses to more extreme cases of cognitive impairments such as organic brain syndrome and Alzheimer's disease (AD). It is estimated that as many as 300,000 Canadians may be suffering from AD and different sources report between 20% and 25% of people over eighty-five years of age may be afflicted. [137,65] Since this is the fastest growing group age among the elderly in Canada, concerns that their special needs are not being adequately met are growing. When perception and cognition are impaired by organic disease, even the most familiar environments can suddenly become very unfamiliar. [114]

In summary, although many of these physical and psychosocial changes can take place at almost any age, for people who live to an advanced age they are more likely to be present and be more inhibiting. To experience these changes in more extreme forms, when one is over seventy-five, and not be permanently confined to an institution requires an appropriate combination of housing and services.

1.2.3 Need for Assistance

The age related losses mentioned in the previous section affect functional and mobility levels to the extent that most people well into their advanced years need help with at least one activity of daily living. Various studies [10, 38,54,83,153,163] have found that between 12% and 40% of the elderly living in the community need assistance with activities such as dressing, washing, preparing meals, housework and shopping. These proportions increase with age as do the number of difficulties encountered. [38,68,106,162] For instance, in a recent B.C. study of seniors it was found that persons over the age of seventy-five were more than twice as likely than those under seventy-five to need at least some help with activities such as preparing meals (14.1% vs. 3.4%) and doing housework (33.0% vs. 13.6%). [8] In addition to individual expectations, the need for assistance can be influenced by social, economic and geographic factors.

Social and Economic Factors

Seniors over the age of 75 are more likely to be living alone and have less available support from family and friends than people in their younger years. This can result in a higher incidence of social isolation and an increased need for assistance from other sources. [38,80] Added to this is the fact that elderly women living alone generally have considerably less disposable income. [107] The loss of a partner and their earning power often requires that the widowed elderly draw upon their capital, which consequently limits their housing choices.

It has been found that the elderly often live in older and more dilapidated housing with poorer sanitation facilities - a situation much worse for renters than owners. For example, the most recent figures on core housing need calculated by CMHC show that 25% of all households led by Canadians over the age of 75 are unable to afford adequate uncrowded housing without paying 30% or more of their gross income. Of these households, 26% own their homes and 74% are renting. [20] In fact, renting seniors 75+ years old are almost four times as likely as owning seniors (43% vs. 11%) to have core housing need problems. Since some studies have shown that older people tend to spend more of their income on housing than younger families, [167,52] less is left for other necessities.

The fact that lack of income has been associated with poorer health of the elderly [78] makes the need for assistance for the less fortunate very old even stronger. The Federal Government has recognized this and in a recent policy position paper by Health and Welfare Canada (Achieving Health for All: A Framework for Health Promotion) released in November of 1986, reducing the inequities in the health of low-versus high-income groups in Canada was seen as the first challenge.

Another important socio-demographic factor affecting housing and service options for seniors is ethnicity. Both attitudes and behaviors relating to the lifestyles of the elderly and how they interact with those around them, (family and friends as well as others) vary by ethnic affiliation. [166] The propensity to live with other family members, for example, or live in congregate settings or neighborhoods with high concentrations of one's own cultural group has been shown to differ among ethnic groups. [146] At the same time, many examples have been cited of seniors in long term care facilities who are unable to communicate with staff or whose actions are not understood by staff due to language difficulties. [45]

Geographic Factors

According to the 1981 Census, about 22% of the elderly 65+ in Canada live in rural areas (those towns and villages with less than 1000 people), a figure that is slightly less (20%) for the 75+ population. If one includes persons living in small towns with less than 10,000 population into the rural definition, the proportion of elderly (65+) living in a more rural setting rises to about one-third (34% in 1981; 32% in 1986). [79] The proportion of rural seniors is similar across the country, except in B.C., where about 17% of the population aged 65 and over lives in urban areas (with 100,000 - 499,999 inhabitants) compared to approximately 9% for the national average. Small towns have a higher than average concentration of people over 80 - almost three times the proportion of seniors in this age group live in small towns compared to the national average (1.9%). Manitoba has 5% of its population 80+ in small towns, the highest in Canada. B.C., once again, has the lowest proportion of the most elderly in small towns. [108]

There continues to be a debate about whether or not the elderly in rural areas are better off financially and otherwise. It was once believed that rural elderly do worse than their urban counterparts, however, this may no longer be the case. [167] In a recent study of the quality of life in rural areas compared with urban settings conducted by researchers at the Gerontology Research Center at the University of Guelph, very little difference was found between the two samples in terms of how satisfied respondents were with their lives or with respect to their social supports or social network characteristics. [108] The researchers did find differences, however, in access to services. The well elderly and those in need of long term care benefitted in small towns, however, those in the middle who needed some services were often disadvantaged. Services were available but often inaccessible due to a lack of transportation, a finding supported by other studies. [136] For people over 75 who are immobile, living in the country may be less than ideal.

There is a concern expressed by some [65] that, as younger people move into the cities, aging parents are left without family supports. Seniors' apartments without services in some rural regions of Canada have, as a result, experienced an increasing vacancy problem as seniors move closer to family who have already relocated.

In order to fully explore how best the housing needs of the rural elderly may be addressed, CMHC has just completed a study [79] that will assist local government agencies in rural communities in examining and recording population characteristics and local conditions that will influence the accommodation and support service needs of elderly people. The study's specific objective was to design, develop and test a survey instrument, user's guide and analytical tool for just these purposes and in addition, to provide agencies and service providers with a basis for evaluating options for meeting housing related needs.

There are also variations in seniors' living conditions within cities. In a recent study on housing and health for the elderly in Toronto, Ontario, it was found that almost half of the calls to the city's health department concerned complaints of overcrowding, infestation, and unsanitary conditions in downtown rooming houses where many of the city's destitute elderly live.[112] At the same time, inner cities across North America have experienced losses of their existing housing stocks for moderate and low income people due to reconstruction and conversion to high income rentals and condominiums. The result is that cities like Toronto and Vancouver have almost zero vacancy rate for affordable rental housing. The elderly are hardest hit by this phenomenon. [3]

In summary, the need for assistance for people 75+ and how housing solutions can respond may vary depending on the nature of these difficulties, as well as a variety of socio economic and geographic factors.

1.3 Barriers to Independence and the Factors Associated with Institutionalization

People over the age of 75 have a much higher rate of institutionalization than younger seniors, and a discussion of the factors affecting this trend may throw some light on the types of shelter packages that could be acceptable alternatives for keeping people in the community. For some seniors, those wishing to remain in their own homes, there is a perceived fear or reluctance about entering an institutional setting. For others, particularly older individuals with severe health related difficulties, the increased sense of security that a long term care facility offers is often welcomed. Either way, the availability of institutional care is an important factor in the provision of community options although the interface between the two is not always clear. Institutional care is part of, but not necessarily the final stage of a continuum of care. [53] Institutions can take many forms, and a standard definition is impossible, however, for the purpose of this discussion, an institutional setting is seen as a facility that is intended to provide 24 hours of care in the way of accommodation, food services and various degrees of nursing care and medical treatment. These facilities can include acute and psychiatric hospitals, but usually, in the case of the elderly, are distinct settings such as nursing homes that provide long term care - in the form of extended or chronic care. [53] Figure B-1 in Appendix B illustrates how care types vary from province to province.

The factors related to institutionalization can be grouped into two major categories: health related and social support related, however as the discussion below will show, the two are themselves interrelated.

1.3.1 Health Factors

The National Action Committee on Aging, in a very recent study on the identification of the most critical barriers to independence in the community for Canadian seniors, [117] has placed health - physical as well as emotional or mental well being - at the top of its list as a major contributor to conditions or situations that were perceived as threatening independence or limiting choices. In fact, several researchers have shown how specific health related factors such as degrees of cognitive impairment, poor self rating of health, two or more chronic disorders or reported health problems, trouble controlling bladder and bowels and the inability to carry out activities of daily living are important predictors of long term care admissions. [15,148,88] Being admitted to a hospital in the previous year is also significant, [15] and although only about 20% of the elderly are admitted to a hospital during the course of a year, this percentage increases with age. [147] About 10% of admissions to hospitals are caused by falls and most of these occur to people over the age of seventy-five. [147]

1.3.2 Social Support Factors

There are variables other than health related factors associated with admission to long term care. A number of researchers have found that "living arrangements" or "household composition" are important and that those still living with a spouse are far less frequently found among applicants to nursing homes. [15,88,147] People without partners, a situation that increases with age for both men and women, are at a decided disadvantage not only in terms of companionship but also in terms of readily receiving help with activities of daily living such as provision of meals, dressing etc., as well as having a feeling of security that someone else is in the home if something should happen.

Although definitive research is still needed, there is recent evidence to suggest that both the quantity as well as the quality of social relationships contribute to a person's health and that seniors who are socially isolated are more likely to be in poor health. [80] However, just as there is a need for positive social relationships and family support, their prevalence and availability to the elderly may be declining. It is predicted that emerging social trends such as increased geographic mobility among adult children, smaller families, higher divorce rates and a greater participation of women in the labor force will reduce the levels of informal support and will influence the way families in the future must cope with ailing senior members. [158,49,80]

Income - or the lack of it - is another factor related to institutionalization. Individuals in the lowest family income bracket - a factor closely related to size of household - are more likely to apply for long term care than individuals with more income. [88] In fact, housing choices, particularly the availability of affordable housing for low income seniors, must be included among the factors that delay institutionalization. During the 1960's and well into the 1970's, the Federal government, together with its

Provincial partners, built over 100,000 units of rent-to-income housing. Since the quality of housing impacts on health status, this public housing stock played a role (along with improvements in other community health and social services) in reducing the demand for "residential beds" in facilities such as Homes for the Aged across Canada. Increasingly, deteriorated health has become the most important factor in the admissions to Homes for the Aged regardless of income status. [64,147]

1.3.3 Combination of Health and Social Factors Increase Risk

Shapiro and Tate in a recent publication [147] point out that although it is important to know how much each individual predictor of institutionalization such as age, perceived health, living arrangements etc. contributes to raising the odds of admittance to long term care, it is really a combination of these factors or characteristics that makes an individual at risk. The more high risk characteristics an individual possesses, the more likely he or she will be admitted to an institution in a given number of years. They found in their analysis that based on age alone, for example, persons aged 75-84 or 85+ had a threefold and sixfold chance respectively of institutionalization within a two and one-half year period compared to people under the age of seventy-five. If these same elderly individuals, however, were also not living with a spouse, had been in the hospital during the previous year, were living in seniors' retirement housing, had one or more problems with the basic activities of daily living and had some form of mental impairment, their probability of institutionalization within the same time period rose to as high as 60% for those over the age of eighty-five and just under that percentage (57%) for those between the ages of 75 and 84. [147] Both age groups with three or fewer risk characteristics were very unlikely to enter a long term care facility. [147]

When the researchers looked at the probability of admission into long term care in a seven year period, they found that for people aged between 75 and 84, it was the presence of some form of mental impairment in addition to several other risk factors that was significant in raising the odds to 73%. [147]

One of the significant contributions of this approach to identifying those elderly most at risk for institutionalization for practitioners is that it reduces considerably the size of the group targeted for special attention or intervention. It also allows policy makers or planners to more accurately decide on a cut off point (i.e., 70%, 80% or 90% probability of institutionalization) where it may no longer be realistic to try to provide a non institutional or community option to a particular individual. [147]

1.3.4 Loneliness as a Risk Factor

While it is difficult to directly relate a feeling state such as "loneliness" to institutionalization, the need for companionship is often given as a motivating factor by seniors seeking institutional or group settings. It is therefore relevant to look at how loneliness interacts with some of the more common predictors of long term care. Not surprisingly, one of the main factors related to reported loneliness is the absence of a partner in the same household. [12,46] It has also been found that being married is more of an advantage for men than for women. [12,46] However, for persons over the age of 70 other variables in addition to marital status, gender and living arrangements become important.

Health has consistently been shown to relate to well being and particularly the inability to move about or being "housebound" has been closely linked to loneliness for those in later life. [37,93] A recent study revealed the importance of good neighbors and friends as a protection against loneliness as people age. The study illustrated that a mutually supported relationship with one or more neighbors can function as a good substitute for the social support normally received from relatives or friends who may have either moved away themselves, or who the older person can no longer visit due to a decrease in mobility. [37]

In summary, in order for community options for the over seventy-five to be alternatives, they must be able to address some of the prevalent risk factors for institutionalization. At the same time, it needs to be said that even the most caring and involved families and efficient formal services have difficulty coping with physically active people who suffer from severe types of dementia, i.e., Alzheimer's disease. Some forms of this condition are expressed by agitated and aggressive behaviors and losses of recent memory. For the security of the sufferer and the peace of mind of the caregiver, there is in some cases no alternative to institutionalization. Although very little has been written on the special housing needs of dementia victims, much more attention is being focused on this area than before. For example, two recent publications - "Design for Dementia: Planning Environments for the Elderly and the Confused" by M. P. Calkins (1988); and "Housing Alzheimer's Disease at Home" by N. Gnaedinger (1989) - provide guidance on planning appropriate environments for Alzheimer's victims.

1.4 Demographic and Socio Economic Factors: Future Implications

The first section of this report has provided considerable descriptive information about people 75 and over, their health and social needs and factors related to these needs. The section will conclude with some brief comments on the projected future characteristics of the older population in Canada and North America in general, and how particular demographic trends, according to some experts, may affect the availability and use of support services for people over the age of 75 in the future.

An important point that should be made is that today's elderly are very diverse - a phenomena that is not easily portrayed by the presentation of descriptive data which tends to group people. In fact, increased diversity is correlated with collective aging. Older cohorts are also characterized by extremes - those in poor health and those with excellent health; those with very little money and those with a lot, etc. Seniors of tomorrow will continue to differ, not only from each other, but from today's elders as well. Some trend analysts maintain that in order to predict future housing and retirement preferences, it is best to look at the lifestyle of today's middle aged men and women - since studies have shown that living habits and patterns do not necessarily change as people age - and not to assume that what pleases seniors today will necessarily be suitable for tomorrow's elderly. [158]

It may be true that tomorrow's aged will live longer, lead more active lives, travel more, meet a greater variety of people and have more money (as some predict). However, there will also be a greater number of people 75+ and 85+ in the coming decades than ever before, resulting in an absolute increase of people with chronic physical and mental disabilities. [158,49] The implications of this trend for health care and other supportive services such as housing are continually being studied, but it is becoming clear, for a variety of reasons, that the informal system including family, friends and other volunteers, will become challenged.

Perhaps the most important determinant of future population size is the fertility rate. A very consistent trend in both Canada and the U.S. has been the declining fertility rate since the beginning of the sixties. Families are postponing having children and having fewer children. The obvious result, barring no major trend changes in immigration rates, will be a sharply increasing proportion of the elderly (65+), and as was demonstrated earlier, the seventy-five plus. Although no causality can be determined, coupled with the declining fertility rate has been a dramatic increase in the numbers and proportions of women entering the labor force. This trend is predicted to continue well into the future since there is a good likelihood that as the younger females of today age and replace their elders in the middle and older age groups, the labor force participation of women will continue to rise. [49]

Another social trend that has been noted is the dramatic increase in the number of divorces since 1970 and the resulting greater numbers of lone parents. [120] This trend, along with the greater labor force participation of women noted above, is predicted to have a profound influence on the care of the elderly in the future. It has already been shown that the primary source of support for the frail senior comes from family - usually a female member. However, it is now also known that the supply (family caregivers) is eroding disproportionately to the demand (increasing numbers of older people). Daughters (or sons) who are working outside the home and may be supporting children on their own, will be less able in the future than now, to provide longer term assistance to a parent in need. [49, 120]

Unless appropriate solutions are found, many feel that the drain on the informal support system will continue to increase the pressure on formal services in the future. For instance, the need for and subsequent cost of, chronic long term and hospital beds for the elderly will increase substantially. [49] As well, the decreasing pool of volunteer workers (in the past typically women who did not participate in the labor force), will force agencies to rely more on paid staff, thus increasing the overall costs of delivery of services.

The distressing forecasts are somewhat balanced out, however, by another view on what the consequences of these social trends may be. It can be argued, for instance, that having a greater proportion of women in the labor force contributes not only to the current formal economy in the way of production of goods and services and taxes on earnings (thereby increasing the government's ability to pay for an aging society), but also increases the monetary self sufficiency (through private pensions) of these women in the future. [49]

In fact, as has been noted earlier, both the absolute and relative income levels of the elderly in Canada has steadily improved since the early 1970's. This trend is partly explained by the maturing of the Canada and Quebec Pension Plans as well as substantial increases in the Guaranteed Income Supplement, the introduction of Spouse's Allowance program, and the increases in private pensions (including Registered Retirement Savings Plans [RRSP]) and investments. [49] The concern for the increasing burden on government expenditures through the publicly funded pension plans, could be offset if both private pensions such as the RRSP and other private investments continue to grow. [49]

It is yet to be determined how society will respond to these changing social trends, however, interventions such as the improvement of people's lifestyles (i.e., smoking, exercise and eating habits) through increased health promotion and awareness have already been realized. In order to gain a better understanding of how the changing socio-economic and health characteristics of Canada's elderly of the future will impact on the needs and demands for accommodation and support services, CMHC has initiated a project (to be completed in 1990) in collaboration with Statistics Canada, Health and Welfare Canada and The Institute for Research on Public Policy, to develop a forecasting model using existing available data.

2.0 ARRIVING AT CRITERIA FOR ACCEPTANCE AND SUCCESS

In order to define criteria that are critical for acceptance and success of housing options for people over seventy-five, two perspectives must be considered: (1) that of the consumer - the elderly themselves; and (2) that of the provider - persons or organizations delivering housing either for profit or not for profit. The first section of this report has addressed needs that the consumer target group - people aged 75 and over - have that make them susceptible to a loss in independence and more at risk for institutionalization. Housing providers will have to find solutions that meet these needs in order to be successful, however, consumer acceptance of these solutions is also important. Why older people move and what types of housing arrangements they choose for themselves are part of the formula for success.

In addition to meeting seniors' needs and preferences, providers must also satisfy community needs and preferences in order to succeed. Is there a demand for the type of housing proposed? Is the location a suitable one with respect to zoning and neighborhood acceptance? Responding to these issues is particularly critical for providing options for the 75+ since it is clear that community services must somehow be integrated with housing in order to meet the needs of this consumer group.

It will be shown in this report that there is more than one solution to the issue of housing the 75+. The suitability of choices available, however, can only be the result of a process that matches individual needs to appropriate lifespaces. Mismatches occur when people are either "underchallenged" (for example, a fully functional individual in a nursing home) or "overchallenged" (a severely disabled senior living at home with very few supports). [96] These mismatches are minimized when providers and relevant government departments work together with consumers and their community to provide solutions.

2.1 The Consumer

Consumer preferences have been examined by a number of researchers and to accurately assess the seniors' housing market, preference becomes a critical factor. There is some reason to believe that the motivations for moving may be quite different for people approaching retirement years, where the decisions are often life style related, than for individuals well into their later life, where need (both health and social) is a stronger factor.

Research has shown that it is, many times, not until a crisis occurs (usually health-related) and relocation becomes necessary that a move is made. [10,60,76, 147] Family, usually children, often play a critical role in deciding whether or not an elderly parent should move. [133] A recent survey in Montreal, Quebec showed over forty per cent (44.1%) of elderly respondents considering a retirement facility had made their choice with their children, while only 20% had made the decision on their own. [94] Results like these have implications with respect to marketing and information dissemination.

Under some circumstances there is little room for personal choice and decision making and this may be the reason why many elderly have difficulty adjusting to a move, particularly if the move is to an institution. [76] So, while for seniors up until the age of 75, housing choices are very likely to be made on the basis of income and preference alone, this is often not the case for people over 75 when health and income may become more restricted.

2.1.1 Reasons for Moving

Why people move in later years has been the focus of a number of studies and the findings are very consistent. For people over the age of seventy-five, particularly those with health and income limitations and without a partner, variables such as "having less worries about repairs", "having someone nearby to call for advice or companionship", "having no steps or stairs", "having a smaller more affordable home" and "having a good heating and cooling system" are motivating factors. [4,7,140,159,169]

The actual order of reasons may vary by age and by former type of housing. For example, in a very recent study of Co-operative Housing as a new life style option for seniors, residents were asked why they had moved out of their former housing, which for most respondents was rental accommodation. Almost one-third cited high cost as the primary reason, followed by maintenance problems and loss of a spouse or loneliness. [144]

In another current Canadian study, focusing on attitudes of home owning seniors to special retirement housing, life tenancy arrangements and other housing options such as reverse annuity mortgages, the researcher found that a considerably larger proportion of younger respondents (aged 52-64) had seriously considered selling their home (59%) than those in the oldest age category of seventy-five and over (27%). [70] For those who were considering a move, the prominent reasons given by respondents aged 75+ were the physical difficulty of maintaining the home and garden (77%) and the design barriers such as too many stairs (33%). These reasons were also given by younger participants in the study, however, not to the same degree. When asked what would make them consider a move some time in the future, respondents of all ages gave their own or their spouse's poor health as the primary factor. [70]

The results of a study conducted in the Atlantic provinces, [111] demonstrate the need for housing providers to include seniors' preferences in their planning stage. The researchers found that what was perceived as desirable by older adults was sometimes quite distinct from what service providers felt would satisfy needs. For example, topping the list of important features in a new home for the older respondents was the security features of the dwelling, whereas the service providers felt that affordability would be the main issue.

2.1.2 Types of Choices

It has already been stated that when given a choice, most elderly people say that they prefer to remain in their own home as long as possible. This may be a home they have lived in for most of their adult lives or one that they moved to before or upon retirement. When research is carried out on housing preferences, it is subjective and respondents in a study provide answers about available options that are sometimes based on very limited personal knowledge or experience. The choices that they select will refer to things that they believe are possible within the limits of their income and life experiences. Acceptance of the fact that health problems of people over seventy-five will likely get worse, and that financial status may deteriorate or remain static as costs rise inevitably influences their choices. So while "aging in place" appears to be what most people wish to do, there is no doubt that in some cases this is due to an actual lack of choice (personal or community related) or a lack of knowledge of what is available to them. [128] Nevertheless, a number of recent studies have focused on the future housing preferences of seniors and there is considerable agreement in their findings.

Seniors Prefer Staying at Home With Services

When seniors over 75 are given a choice among options such as remaining at home with family to assist, remaining at home with friends and neighbors to assist, remaining at home with support from community services, moving in with family or with friends, moving to a home for the elderly or moving into seniors' housing with some services, two recent studies - one in Hamilton, Ontario and another in Victoria B.C. - showed a strong preference for "staying at home with community services to assist". [8,136] Fully 74% of people over 75 in the Hamilton sample (N=677) chose this option - almost the same proportion as in the Victoria study. (Both studies used the same questions).

Moving in with family or friends was found to be less popular for the over 75 respondents. Although help from family and friends is in reality the most prevalent form of assistance given to seniors, there is evidence that fear of burdening children and neighbors is on the mind of many recipients. A recent study in Montreal, Quebec found that for those seniors living alone, their preference when asked, was to continue to do so or to live with someone other than family. [10] The same researcher reported that those seniors still living with a spouse were least likely to want to change their living arrangements. 10

Seniors Will Consider More Than One Option

Another finding in the Hamilton and Victoria studies was that respondents were willing to consider more than one type of living arrangement and that options such as moving into a type of retirement home or housing with services were also favored by many respondents. However, those over 75 were less likely to want to move into purpose built housing at some point in the future than were younger respondents.

Although they may be the ideal solutions for the lonely or less affluent elderly person, there are some options like home sharing or taking in a boarder, that appeal to fewer older people. However, this may be largely due to the undermarketing of these options. There is also some reluctance on the part of older seniors to become involved with financial options such as reverse mortgages or life tenancy and once again lack of knowledge on the part of consumers may be a major reason. 70

In summary, people over 75 are more reluctant to make a move than younger seniors, and when given a choice, prefer to receive support from community services rather than from family. However, substantial numbers of older adults would consider various forms of purpose built housing particularly with a supportive component.

2.1.3 Consumer Satisfaction

Both seniors and their families have expectations that reach beyond the provision of basic services. What makes people content with their housing arrangement is both dwelling related and community or neighborhood related. A number of studies have looked at the most important factors within each of these two domains for seniors in general and most of the features or characteristics mentioned become even more critical for people over seventy-five.

Community Factors

Location has, and always will be, a critical factor in the success or failure of property development; in the case of the seniors' market this is even more the case. For the mobile senior, proximity to shopping centers, recreational or senior centers, libraries and churches are important. However, for those over 75, who may be less mobile, access to community facilities such as special transportation, health clinics and homemaking services are not just a matter of convenience; they become essential. A recent example of an initiative in British Columbia demonstrates this point. After experiencing two market successes in their resident funded co-op housing projects for seniors in the Surrey area, a local housing organization built a third development in Coquitlam about 25 miles from downtown Vancouver. Unlike the first two developments, which were clusters of one storey bungalows sharing a common greenspace, the Coquitlam project was a three storey building with well designed units for "aging in place". It was located on a fairly busy street close to shopping centers and public transportation, however, the surrounding neighborhood consisted of mainly young families and as a result there were very few older residents who were ready to leave their homes and relatively little in the way of well developed local services aimed at just seniors. The building did not fill and eventually was converted into condominiums at a great loss to the housing authority. The lesson of the critical importance of location was learned. Other studies on tenant satisfaction have reported that older respondents rate living close to health and social services and accessibility to home maintenance repairs very highly. [57,123,141] Housing that is aimed at satisfying the 75+ market and is located in a community or neighborhood with well developed services for seniors will have an increased chance for success.

Dwelling Related Characteristics

Dwelling related characteristics can be addressed from two perspectives: those related to a person's private living space, and those related to semi public spaces (i.e., public hallways, common rooms). There are both design features and facility or service features that have been found to satisfy an older market.

Mobility related difficulties can occur at any age or stage of life. Stairs are a barrier to someone maneuvering a baby carriage, a bicycle or a shopping or baggage cart but for a person temporarily or permanently confined to a wheelchair, this barrier becomes insurmountable. With respect to private and public living spaces, it is common sense that for people over 75, design features such as wider doors and hallways, fewer stairs etc., that improve accessibility will be appreciated. Minimizing the use of stairs, for example, is critical when designing living spaces for the elderly, however, making a building more accessible can offer consumer satisfaction to a broad age range. Improved accessibility also enables a building to be useful over a longer period to residents who show signs of aging in place, thus possibly avoiding a future move.

The challenge for today and tomorrow's designers, architects and builders is to make features that should be commonplace in our everyday environment a reality. The goal is to redesign the environment for physical comfort, convenience and maximum independence. [158]

Within the unit or home, surveys of residents have shown that design features such as lever-type faucets and door handles as well as attractive grab bars in the bathroom, easy to grab wall extension mirrors for shaving and grooming, automatic light switches that turn on when there is a sound in the room and off when there has been no sound for awhile, jumbo button or voice activated telephones, among others, are important for older respondents (particularly those with functional impairments).[140, 158] Security call buttons have also been found to be a desired feature, particularly by those over 75.[8,39,140] In the Victoria B.C. study cited earlier, respondents were asked if their current living situation could be improved if a number of components of supportive housing were introduced. As Table 2.1.3 shows, an alarm system was the most desired component.

TABLE 2.1.3
PREFERENCES FOR COMPONENTS OF SUPPORTIVE HOUSING BY AGE GROUP*

COMPONENT	PER CENT INTERESTED BY AGE GROUP		
	<75	75+	TOTAL
Alarm systems	37.3	50.2	42.4
Person you could call	26.1	50.2	35.8
Meals	18.1	34.0	24.4
Person to check on you	15.0	23.9	18.5
Activities	16.2	16.3	16.2
Laundry	9.9	20.1	14.0
Sample size	(321)	(212)	(533)

*Question: "Would your current housing situation be improved if there were a central dining room in the building, from which you could purchase meals if you wished?" etc.

Reference: Baker, 1987.

In addition to design related features, there are a number of other building related amenities for which seniors express a preference. Having someone like a caretaker to call when an emergency arises is an important feature. One study on seniors' housing satisfaction found that the on site caretaker was called second only to relatives when tenants needed personal assistance.[57] In Baker's research, as shown in the table, having a person to call was rated equally as desirable as an alarm system by respondents over the age of seventy-five.[8]

Having access to on site meal services is often a highly ranked feature of purpose built retirement housing, and was third on the list in Table 2.1.3, however, in reality, in some seniors' housing projects where residents or tenants also have their own kitchen facilities, meal services have been under utilized. [26,58] It is important, therefore, that developers examine the situation on an individual basis, and make decisions based on the potential needs of residents.

A final note reflects a concern expressed by some respondents to surveys on housing satisfaction that features designed to make a building more accessible or secure for older residents or tenants should be "subtly" incorporated so as to avoid an "old folks" appearance to the development. [140]

2.2 Prerequisites to Success

Because housing solutions for the 75+ must be a combination of shelter and services, a number of prerequisites that facilitate the linking of the two components must be satisfied. These prerequisites affect both the consumers - the elderly and their family, and the providers - whether they are for profit or not for profit, and can be grouped under two general headings: (a) awareness and understanding, and (b) availability and delivery.

2.2.1 Awareness and Understanding

Lack of awareness about community services, some housing options, and the range of combination options of these two components, on the part of potential clients as well as providers has been shown to be a major inhibitor to their use. [38,70,102,136] While not an issue pertaining strictly to the over 75, studies have shown that people over 75 and again over 85 are less likely to know where to go for help than younger seniors. [38,70,136,142] Since these seniors need the services the most, it is particularly critical that ways be found to improve information flow to this target group.

A recent initiative in Ottawa-Carleton is a step forward in addressing the difficulty seniors and their families have in finding appropriate accommodation. The Council on Aging funded a small project that resulted in the development of a detailed housing inventory for seniors. [33] The inventory lists addresses and telephone numbers, and includes descriptions on the services and staff, as well as cost and other relevant information about all purpose built residential options in the Region. Several hundred calls were received by the Council from people requesting copies shortly after the Directory's press release. These requests came from seniors, their families and agencies.

For housing and service providers (developers and managers), understanding of the needs and preferences of the over 75 market is crucial. This includes an increased awareness about the aging process both physical and social; about what potential consumers can afford; about what amenities will be most acceptable and meet most needs; about attitudes that may change as people age (i.e., increased concerns about health and security) and ones that likely won't (i.e., people who do not like socializing at a younger age will probably not become more social as they age). Providers must be encouraged to show a sensitivity to different language and ethnic groups. Seniors over 75 whose language of comfort is not English are not likely to become fluent. Appropriate staff and services (i.e., meals catering to cultural groups) should be provided to meet the needs of people from different cultural backgrounds. [58,164]

2.2.2 Availability and Delivery

There are a number of general issues related to the availability and delivery that affect the supply of and demand for housing and services for the 75+ market. Although there is currently considerable activity in the private sector with respect to the development of purpose built housing for the older market in almost every major city across Canada, there is also a great deal of concern by social planners that what is being provided is not what is needed. Most projects have been initiated on the basis of very little if any research, and are targeting the "healthy and wealthy" senior. For many, preleasing has not been a success and empty units appear to be the norm rather than the exception. Although some services such as central dining, housekeeping, 24 hour security, assistance with medications are offered, usually at an additional cost, units are very small (often bachelor size or smaller), and very little planning has been done with respect to what would be needed in a development to allow residents to remain there if serious health problems occur.

Experts are predicting that a saturation in the "upscale" market will cause the demise of many private developers and that what is really needed are more affordable options. [31] The recent seniors' housing inventory conducted in Ottawa-Carleton showed that there were gaps in middle income purpose built housing - a finding that has been evident in other parts of the country. [59] This gap may be one of the main reasons why so many seniors decide to remain "overhoused" (i.e., living in homes with 3 or more bedrooms).

Private entrepreneurs can learn from government. During the 1960's and 70's the private sector showed little interest in the seniors' housing market as the Federal government, together with their Provincial partners, built rent-to-income apartments for older Canadians. In each province, a combination of one bedroom and bachelor units were built. The Ontario Housing Corporation was somewhat unique in choosing to build primarily one bedroom units. The wisdom of their decision is recognized today when many bachelor units in all of the provinces are not popular among even the oldest low income consumers. In spite of this past experience, new hotel style developments combining rooms or suites with services are being built by some private developers.

What is obvious is that both profit and not for profit developers interested in providing housing and services for seniors have to be encouraged to conduct more comprehensive needs assessments and feasibility studies particularly if the more complex over 75 market is to be served.

The Role of Governments

In the past, government funded housing for low income seniors has included primarily the provision of apartments without services other than maintenance and in some instances a community social worker (and in exceptional cases provision of meals). Design guidelines for making kitchens and bathrooms accessible to people with decreasing mobility were observed and recreation areas were provided where tenants could socialize. Today many housing authorities are experiencing increasing numbers of tenants over the age of 75 with health related difficulties in need of services that are not readily available.

For modest income seniors, both the Federal and Provincial governments have, in the past, initiated programs to encourage non-profit groups (churches, charitable organizations) to build housing for the elderly. These have included self-contained apartments with recreational and social amenities, apartments without support services, and projects that combined rooms and services. Between 1980 and 1989, for example, CMHC committed, through a number of social housing programs, over 100,000 dwelling units across Canada in projects designed solely for seniors, not including those dwellings in family projects occupied by seniors. As well, the private sector has built, over the last twenty years, a variety of accommodation options for older seniors including retirement communities, lodges and apartments.

The potential stability of the seniors' housing market for the population 75 years of age and over is affected by government policy directions. For instance, the current thrust towards deinstitutionalization (which is in a large part in response to seniors' preferences to live in residential environments) determines to a great extent the types of research that is being carried out and options that are proposed.

A note about the current and future role of government should be made. All levels of government have begun to reflect, and some have taken action to contribute, "new thinking" towards finding housing solutions for those in need. Although direct government subsidies are and will likely continue to be necessary, there may be other ways - through regulatory reform for instance - to increase public resources and the supply of good affordable housing. Steps have been taken in this direction by the Federal government (CMHC) through the sponsorship and financial backing of a joint study by the Canadian Home Builder's Association, the Canadian Association of Housing and Renewal Officials and the Canadian Federation of Municipalities to evaluate existing building regulations and to make recommendations.

2.3 Housing and Support Services: The Framework

In setting the stage for the evaluation of existing options, the first part of this report has focused on a description of the needs, motivations and preferences of the target group as well as some of the factors that affect success of delivery. Section Three will discuss a selected number of promising housing and support service approaches with regard to their potential for people seventy-five years of age and older.

Housing and support services can come together through a variety of ways. Formal support services (i.e., those not directly provided by family, friends and neighbors) can be delivered to seniors living in their own homes (including seniors' purpose built housing) through community agencies as well as outreach programs from existing senior centers, nursing homes etc.; they can be provided through day programs where seniors are transported to the service center; or they can be introduced as part of a residential and support service package in purpose built accommodation. These are just a few of the common approaches.

The accommodation options which are dealt with in the next section range from ways of utilizing existing single family homes to new and potential developments specially designed for the elderly. For each option, methods of facilitating and enhancing the delivery of necessary support services are considered. The discussions with respect to support services include approaches that are designed to help older people to continue to live independently in their own homes as well as new and potential directions for providing services in combination with a variety of living arrangements.

3.0 EVALUATION OF EXISTING OPTIONS AND NEW DIRECTIONS: POSSIBLE SOLUTIONS

Whether they wish to stay or move, seniors in Canada currently have a number of housing choices. Some of these options involve the use of the conventional existing housing stock; others are in the form of housing specially designed for the older population. The study team came together for a consensus day and rated a selected number of these options with respect to how appropriate they are for persons over the age of 75. The ratings were based on how well each option currently addresses the needs of the target group, as well as the degree of success and acceptance each option is experiencing with both consumers and the community at large. Ways of overcoming potential barriers to success were also addressed at the conference using actual case studies as examples. The most promising new solutions are discussed here.

The criteria guiding the evaluation were divided into four broad categories of variables seen as most critical for supporting independence for the 75+. These were:

(1) potential for carefree living - having assistance with inside and outside household maintenance;

(2) - having a feeling of safety and security - which included having a physically accessible and functional environment so that private and communal living spaces are designed to allow restricted seniors control over their own movements;

- having a security of tenure both in terms of financial and physical appropriateness for aging in place;

- being affordable;

- having living spaces that respect the privacy of individuals;

- having living spaces that are comfortable in terms of space, temperature etc.;

- having a hazard free environment where falls, danger of fires etc. are minimized; and

- having the ability to continue to live at the same standard (both financially and socially) as before.

(3) having access to support services (both formal help from agencies and informal help from family and friends) - includes medical and nursing care, help with personal care, meals etc., counselling, and special transportation if needed; and

(4) access to other important amenities - such as ordinary transportation, shopping, banking, libraries, churches, leisure programs, and the ability to maintain social ties through visits with family and friends.

It was recognized at the outset that the four sets of criteria were not mutually exclusive. For instance, location can influence the availability of and accessibility to some services, and in fact, in-house services often complement those already available in the community and vice versa. During the actual rating process, each of the selected housing options was assigned a score of between 1 and 3 (High\Medium\Low) depending on to what degree study team members felt the four elements were present and could support independence. An overview of the results is presented here. A detailed Table of the ratings can be found in Appendix B, Table B-1.

3.1 Choosing to Stay

Although the decision not to move may be a covert rather than conscientious one, most people remain in their own homes as they age. And, some experts agree that a stable and familiar environment is important in helping older people lead full lives. [98] As it stands, however, the option of remaining in one's home - whether rented or owned - was rated fairly low on all four criteria. Although team members agreed that "staying put" in the family home can provide maximum independence, for some elderly this independence may come with enhanced risk, particularly if health deteriorates.

In order for the needs of the 75+ to be met, most forms of conventional housing - whether single family or multiple - currently require modifications to make them more accessible and barrier free. Many elderly live in homes that need repair, have steps, or are too difficult (either too large or too expensive) to maintain. Some people who live in larger homes stop using the upper and basement floors entirely as they grow older.

Access to necessary health and social services and other amenities varies depending on both individual (such as people's awareness, or the type of help needed) and community (location of neighborhood or rural vs. urban etc.) factors. For the functionally disabled or cognitively impaired senior still living in their own home, both access to and availability of necessary services can range from generally problematic to very poor. [74]

It has already been shown that community support services, both formal and informal, are crucial for the 75+, yet agencies continue to be plagued by underfunding, lack of trained staff, high turn around of staff, poor wages for homemakers and long client waiting lists. Improving awareness and co-ordination of services at the community level is seen as one solution that may yield greater efficiencies, however, the consequence may well be an increased demand that agencies are not prepared to handle.

It is becoming clear that for seniors to be able to remain in their own homes regardless of which form this may take, finding more ways to support family and friends and other volunteers in their efforts to assist the elderly should be a priority. Some provincial governments in Canada have already gone a long way towards addressing this issue. Manitoba, for instance, through its Continuing Care Program, provides a number of services to support the provision of care at home including family relief (care provided at home as a Home Care Service for short periods during the week), respite care (caregiver relief provided for weekend or extended periods either at home or in Personal Care Home) and adult day care (for day time socialization and supervised recreation). [74] The program is based on a principle of continuing care with an emphasis on keeping seniors in their own homes as long as possible.

Ontario has been studying its approach to the provision of services to the elderly for some time and has recently announced a new, more comprehensive strategy for long term care in the province. A fundamental part of the system will be the recognition of services that will complement and sustain families and friends as caregivers. Central to the reform is a move towards a single entry and integrated (interministerial) admittance process to community care and long term care beds with an emphasis on the most appropriate form of service suitable to the individual's and family's needs. [156]

Studies consistently show that the majority of help seniors receive comes from informal sources, however, there are trends or patterns in these supports that change as people age. In some instances, the type of assistance required changes and makes it less feasible or desirable (on the part of the older person) to have family or friends help (i.e., assistance with bathing and other personal care is often provided by agencies rather than friends or family). [38] In other cases, the frequency of help needed increases to a point where neighbors or family can't keep up. And there are some difficulties, usually mobility related, such as climbing up and down stairs or walking around the block, with which people over 75 (particularly those living alone) often report receiving no help at all. [38, 136] Added to all of this is the fact that as people themselves age, so do their caregivers, reducing the pool of helpers for people of advanced age. The answers to providing a supportive environment for people over 75 in their own homes lie in finding ways to maximize the use of both informal and formal supports since for this age group one supports the other.

There are a number of initiatives currently underway in Canada and elsewhere that can make a significant contribution to providing the necessary support to help older people maintain independent lifestyles. Some come in the form of rehabilitation and home adaptations, and others in the ways in which services are delivered.

3.1.1 Rehabilitation and Home Adaptations

The majority of conventional housing structures, whether they are single family homes or apartment buildings, are not suited for aging in place. And in fact, attempts to make a home safer and more accessible are usually not implemented until a life threatening accident has occurred. [6] Design changes can range from fairly straight forward modifications like adding ramps and grab bars or improving the lighting to more extensive alterations such as moving a bathroom and bedroom to the main floor. These and other home adaptations are well documented, however, there has been little in the way of evaluative research to test which types or forms of design modifications are most successful in helping people to age in place. Some maintain that modifying a home to make it safer need not be costly and may require only minor changes. [6,98]

Under a program designed to explore options that can enable seniors with physical functional limitations to maintain independent lifestyles, the Department of Community Health at the Montreal General Hospital is currently carrying out a study that will examine the potential of home adaptations for maintaining or restoring independence. The goal of the project, which is being co-sponsored by CMHC, is to implement minor, inexpensive and practical changes to the homes of increasingly elderly people that are geared to the functional level of the individual as well as the physical structure of the home. One of the clear philosophies of the program is that "over modification" is not a good thing and, in fact, will have negative consequences in terms of an individual's ability to function in an independent manner.

The study has three phases. The first phase (which has been completed) is the design of a tool to examine potential home improvements; [21] phase two (September 1988 - December 1989) is the assessment and implementation stage; and the final phase of the project (March 1989 - December 1990) will involve an evaluation of the impact of the home adaptations on the level of independence of the seniors participating in the study.

Home modifications and community services alone, however, may not meet the needs of people 75 and over who have experienced some of the age related losses described earlier. For many individuals, particularly those living alone, a change in living arrangements that increases the potential for companionship and assistance from informal sources may be the solution.

3.1.2 Changes in Living Arrangements

Changes in living arrangements can be achieved by modifying a single home so that it is suitable for two unrelated people to share or by adding an apartment. Both usually require some degree of home renovation.

Sharing a home - An elderly parent or parents sharing a home with a son or daughter and their family is a fairly common occurrence, particularly among some ethnic groups, and can be a very rewarding experience for all parties. Based on this principal, more and more communities are establishing agencies that help people either rent a room in their own home to another individual or find such accommodation for a person looking for a room in someone's home. This form of "home sharing" can be a very workable and affordable housing solution for people over 75.

At least three factors appear to stimulate the proclivity to home share: decreasing financial status, loss of a partner and poorer health. Common reasons given by people wishing to share are rising housing costs, companionship and mutual support, wanting to remain at home and independent, and wanting a family atmosphere. [110,129] Team members saw this option as a viable alternative for people over 75 who live alone because it addresses the affordability issue, the issue of underutilization of houses and apartments, loneliness, the inability to maintain a home and the fear of living alone.

Some matches last longer than others. Two of the main reasons given for dissolution (regardless of the ages of the sharers) are a change in health status and a requirement for a higher level of care of at least one of the partners [92,129] and it is under these conditions that home sharing may not be ideal for the 75+. However, there are at least two factors that have been found to have positive effects on the length and quality of a home sharing arrangement. First, agency arranged matchups are more successful than privately arranged ones and it appears that the security of tenure is largely dependent upon the linkage to committed formal organizations--either churches or non profit corporations or government bodies who take the responsibility of screening and matching people. [63] Second, and particularly significant for the over seventy-five, is that several evaluations have found that matching older people with younger individuals who have mutual needs that can be bartered (i.e., a senior reduces the rent in return for help around the house from a student boarder) increases the chances for success. [43,50,110] However, the types of assistance that can be given by a boarder are limited and generally stop short of health related care.

An option for the financially able elderly requiring a higher level of care and willing to home share is to hire a live in helper who not only receives free room and board, but also some payment for their services. This type of arrangement can be agency sponsored - either for profit or not for profit. The role of the agency would be to recruit and screen potential helpers as well as facilitate the agreement between all parties. [43]

Different models of agency sponsored forms of home sharing are being tested in the United States [84] and it is the model of "dependency" where forms of personal care assistance are involved, that requires the most commitment on the part of the helper. It is also the least frequent, estimated at only about 5% of all arrangements in the U.S. [84]

The dependency model is the most challenging for case managers since the homesharers are generally of advanced age, have very substantial health problems and need considerable assistance - usually from several services besides homesharing. [85] Considerable time must be spent during the screening and matching stage to ensure that both parties are clear on expectations and to make sure that the more vulnerable home sharer is not taken advantage of in terms of safety or property. Ongoing case management is also critical to the success of the match up and often other family members play a key role in arranging for services and monitoring them. In these cases, the agency plays largely an information providing and supportive role. [85]

Perhaps the biggest drawback in most home sharing arrangements is the lack of privacy available to both parties since living, kitchen and often bath facilities are communal. Some earlier research has shown that the importance of privacy increases with age [96] so that for individuals where this is crucial, "tradeoffs" must occur.

The spatial layout of a house or apartment can foster or hinder home sharing. One condominium developer's (Bramalea Ltd.) answer to the privacy issue for today's different lifestyles, and certainly suitable for home sharing, was recently advertised in a Toronto newspaper. Referred to as "The Split Wing Suite" the unit features two separate bedroom and adjoining bath wings. The kitchen and living areas are situated between the two sleeping wings to give the unit more of a triangular layout. (Please refer to Appendix C, Figure C-1 for an illustration).

Creating an Apartment - An option for remaining in one's own home that combines many of advantages of the home sharing concept described above and maintains privacy is the creation of a self contained apartment through conversion of an existing house. Some obvious prerequisites for this option are to have a home suitable for conversion and to have access to financial resources for the completion of the work. A recent estimate for the cost of reconstruction is between $5,000 and $20,000 depending on the situation. [91]

For people over 75 and experiencing some age related losses, the accessory apartment (as this option is often called), can offer added income, security, companionship and assistance with home maintenance. However, the restrictions in terms of the amount and level of assistance provided are the same as in home sharing, and when serious health problems arise, the nature of the owner-tenant relationship changes.

There are generally two types of accessory apartment arrangements: (1) families adding an apartment in their home to bring an elderly parent(s) to live with them, or (2) an older person or couple adding an apartment in a home too large for their own use and renting to a tenant. In the latter case, the arrangement usually involves non relatives and is often based on mutual need - added income and security for the homeowner and affordable housing for the tenant(s).

The potential for a supportive living environment for the over 75 age group is evident in the results from a recent survey of both related and unrelated tenants and homeowners in the U.S. [72] The survey found that 52% of the tenants provided some services to the owners, and 26% received some form of assistance.

Most apartment arrangements are made privately, however, there are agencies (more common in the U.S.) that assist people in either finding a home or a tenant. Costs to the agency can be recouped through a fee structure system that is tied in to the amount of rent a homeowner will receive. [72]

Perhaps one major obstacle to the potential growth of this housing option for older seniors is their own reluctance to employ renovation and remodelling specialists for financial or other reasons. [73] Some place the blame on the construction industry itself for not recognizing the needs of seniors as a major market and developing appropriate marketing strategies. [73] Others feel that increasing people's awareness about alternative financing such as the reverse mortgage would be beneficial. [32]

Most seniors who own their own homes have fully paid their mortgages by the time they are sixty-five. Reversing the mortgage is one way of using the equity from the home to finance a major expenditure such as an accessory apartment or other home modifications. There are a number of different schemes. (See "Housing for Older Canadians: New Financial and Tenure Options" by CMHC, 1988). A common approach involves regular monthly payments by the lender to the owner based on a formula that includes the value of the home, future trends in interest rates and how long the actuarial tables say the owner(s) will live. [22]

In summary, team members rated both home sharing and accessory apartments fairly high on being able to provide a form of carefree living and a sense of security and safety for older seniors. However, in the area of support services and access to amenities it is clear that increased interfacing with community resources must take place in order for these options to be more suitable for accommodating the needs of the 75+.

3.1.3 Recent Support Service Initiatives That Help People Stay

A number of innovative ideas are emerging in Canada, the United States and elsewhere which are aimed at supporting elderly persons and their families in order to increase the chance of being able to remain at home. Some of these are described briefly here. Perhaps the most dramatic new direction comes from the introduction of new products and technologies. These include not only various assistive devices (i.e., automatic appliance shut offs), but also emergency response systems and technological advances in design. Because these supports can apply to both seniors in their own home and those residing in forms of retirement housing, a detailed discussion of their potential for the 75+ is reserved for a later section (please refer to 4.0).

Assistance with home modifications - Community based services that are aimed at helping people make modifications to their home so that it is suitable for aging are fairly recent and are still in the experimental stages in some jurisdictions. The services can take the form of grants or other forms of financial assistance, advice about repairs and where to get help, as well as completion of the actual work.

France has had a "home rehabilitation project" for some time that concentrates on improving the physical environment of retired persons so that all homes have adequate facilities and heating. [125] The program is operated at a neighborhood level through specialized "service sectors". Countries such as England and Wales also have a variety of locally based home improvement services - some more recent than others. [40,165]

A recent development in England is the provision of agency services (which may be sponsored by local authorities, housing associations, voluntary bodies and the private sector) whose main purpose is "to help elderly people by identifying what work needs doing (to improve their home), arranging estimates, appointing contractors, organizing financing and monitoring the work on site". [164] The services have been shown to be valuable in enabling frail elderly people to remain in their own homes and are expanding through increased government funding. 164

Both the U.S. ("Modifying Environments for Older People") and Australia have recently introduced home modification programs. The Australian program, "Home modification and renovation scheme" is aimed at people with disabilities, including the elderly. 41 The program is administered by the Dept. of Housing (with assistance from the Dept. of Health) and is in its pilot stage in a few local council areas. It offers advice from a qualified builder who will assess what work needs to be done (changes can include ramps, rails, modifications to bathrooms, kitchens, etc.), and if required will also arrange for suitable tradespeople and oversee the work.

The program also offers financial assistance, usually in the form of a repayable loan. The amount of the loan is dependent upon factors such as the individual's income and the value of their house. For people over 65, the loan can be repaid from their estate. 41

There are a number of "Home Safety" programs in the United States whose aim is to reduce the incidence of falls by the elderly (already shown to be a major health hazard for the 75+) through simple strategies such as rearranging furniture and using appropriately colored furniture to assist people with limited sight. The American Association of Retired Persons' Consumer Affairs section has recently created an educational kit called "Making Life a Little Easier: Self-Help Tools for the Home" which consists of a 50 minute slide presentation showing how inexpensive solutions can make the difference between withdrawing from an enjoyable activity and keeping active. 5

The U.S. is also experiencing an increase in the number of privately operated "Home Assessment" companies that specialize in the assessment of older people's homes and their functional abilities for a fee. The potential for these types of services to be successful in Canada has not yet been realized.

In Canada, at the Federal level, the primary source of financial assistance for homeowners who wish to make necessary repairs, but are unable to afford to do the work on their own, is the Residential Rehabilitation Assistance Program (RRAP). This program, which has been in existence for some time, can benefit disabled elderly people by providing them with loans and grants to improve accessibility to and within their homes. There are also provincially based programs, however, home improvement services for the elderly organized at the local or neighborhood level are still relatively rare in this country.

Linking Hospital to Home

The examples given below show two ways that the security of a hospital can be brought to the home. The first is through a type of emergency response system (ERS) (there are many and not all are linked directly to a hospital - see Section 4.0 for further discussions) where an elderly person living in their own home can summon medical help quickly when needed; and the second is a form of hospital care administered in the home over a longer period of time.

The fear of a fall or sudden illness is very real for people over 75 living alone at home and it is primarily this that has instigated some recent initiative in the area of **hospital to home linked emergency response programs**. One example of this type of system is a program that was developed and tested at the ambulatory care center (a day hospital) of the Jewish Institute for Geriatric Care in New Hyde Park, N.Y. for frail elderly living at home who use the services of the center. The program is operated on a 24 hour basis and is staffed by three part time physicians who, because of the potentially medically complicated nature of the problems of the aged, were judged most qualified to answer the initial telephone calls. Seniors in distress use their own telephones by pushing a special button that transmits the call directly to the center. The physicians screen the calls and refer the caller to the appropriate team member. In an evaluation of the program, it was found that during a one day census of the 500 active patients at the ambulatory center, about 5% (29) utilized the emergency system after the center was closed for the day (from 4.00 p.m. to 9 a.m). Of these, about half were judged to be hospital emergencies and the remaining required either telephone prescriptions or verbal reassurance. The operators of the system concluded from the results that the emergency service was not abused and the volume of calls was such that the rotation schedule of the physicians was not burdensome. [173]

Another example of a form of emergency response program tied into hospital care is being used quite extensively in the U.S.A., the province of Alberta and more recently in a number of other communities across Canada. Unlike the program described above, where patients use a regular telephone, clients are provided with an emergency response device fitted with a transmitter (different types of devices and the way they work will be described in Section 4.0) worn around the neck in the form of a medallion. Subscribers to the program (the fee at one Canadian center is $20.00 per month) simply push a button located in the medallion when help is needed. Help is summoned in different ways. In some cases, a signal is transmitted to a computer situated at the hospital and the subscriber's telephone number automatically appears on the screen. An operator immediately telephones the client; and in instances where there is no answer, a family member or neighbor (whose names are on file) is contacted or 911 is activated. 99

In at least one location, the program has expanded its services to include the general public and is aimed at chronically ill elderly who are living at home alone as well as the blind, cardiac patients, people suffering from equilibrium problems, sufferers of high blood pressure, paraplegics, etc. 99

The Ontario Ministry of Housing, in collaboration with CMHC and the Ontario Ministry of Community and Social Services, has just completed a project which included developing performance specifications for an ideal system. Copies of these specifications can be obtained from the Ontario Ministry of Housing.

Another new way of linking the hospital to the home in order to support an ailing person in a more familiar environment is an initiative commonly referred to as **"Hospital in the Home"** or **"Hospital at Home"**. In France, where it has been operating for some time, a major success factor of the plan has been the active participation of the community including health and social providers, associations of retired persons and local government bodies. Potentially, this type of program or plan could address the financial dilemma faced by hospitals, however, this has yet to be proven. What is does allow, however, is for an elderly person who might normally require a lengthy hospital stay to remain in what may be for many (but not all) a more comfortable setting. 125

There are various forms of hospital at home programs operating across Canada and more in their proposal stages. An example of one Canadian program can be found in New Brunswick. Called "The Extra-Mural Hospital", the program was established by the government of New Brunswick in 1981 in response to a number of factors including what was seen as the increasingly high costs of institutionalization. The objectives of the program are to avoid unnecessary admissions to hospitals and nursing homes and to facilitate earlier discharges from medical care institutions. A number of local delivery service units, strategically located within the community, provide the necessary home care for residents. 51

Unit co-ordinators are responsible for admissions to the program, administrative functions and quality of care. Services provided include dietary, respiratory, nursing, occupational therapy, physiotherapy, provision of assistive devices, meals and homemaking services. Although the program is designed to serve all age groups, the majority of users (60%) are 65 years of age and over. Individuals seeking admission into the program need to be referred by a medical doctor, and only those who can safely be cared for at home are admitted. 51

There are numerous other hospital based geriatric programs, too many to be included here, that are aimed at improving the quality of life for seniors. Outreach medical services and day hospital programs are operated in hospitals and long term care facilities across the country and are seen by many as another solution to offsetting the costs of long term hospital care.

Assistance With Day to Day Living

It has already been shown that the greatest source of daily assistance for the elderly are family and friends and as seniors age and need more help, the assistance is more and more one way and often causes strain for the caregiver. Some of the most promising new directions in home support services are aimed at alleviating caregiver stress.

Senior Day Care, although a relative newcomer to the field of home support for seniors, is now an integral part of the network of community support services enabling older people to retain their sense of well being and autonomy. The types of services offered in centers can vary and range from social and recreational to health related care depending on the nature of the program, however, day care services stand out from other day programs because they almost always target clients who are either physically or mentally impaired.[34] Most programs also operate at least four hours a day, once or several times a week, and provide a meal. They may be "free standing" or sponsored by an existing facility or organization such as a Seniors' Center or Residence and almost always involve a modest user fee with the remainder coming from a subsidy.

Day care centers are usually distinguished from day hospitals by the level of medical care and related services available to clients. The latter tend to include a broader range of medical services such as occupational and physical therapy, while day care tends to focus more on social support and stimulation, activities of daily living and general quality of life issues.[25]

A major objective of senior day care services is the strengthening of an individual's ability to function within his or her own home or community.[25] By providing a regular, structured program in a supervised and supportive setting, the goal is not only to enhance the physical, social and mental well being of the older client, but also in many instances, provide a "break" to spouses and other family caregivers. In order for senior day care to be truly effective in preventing or delaying unnecessary institutionalization, however, a recent evaluation has recommended that the programs operated at least 5 days a week, that a meal always be included and that transportation to and from the center either be included or offered in a systematic way to those who cannot provide their own.[34]

Caregiver support services, although often talked about, are still relatively few in number, however, more and more communities are initiating new programs. For example, most major Canadian communities offer respite services to families looking after an elderly parent. The service can be on a daily, weekend or weekly basis and can be both "in home" or in an existing facility. The latter can be in a hospital, a nursing home or another type of retirement facility that has the appropriate support staff. Usually only one or two beds are set aside for this purpose and there is general consensus that this is not enough. In some provinces, there is also the availability of some financial assistance for the caregiver, however, this is still quite limited.

"In home" respite services are generally operated through a home care type program or a private nursing service, and offer the advantage of less disruption and more continuity so important to many elderly. Both types of services are still underexplored in terms of their potential in the private for profit or voluntary sector although a few examples exist.

"Live in companions" is a new initiative in the United States that is largely private sector driven and is aimed at providing longer term house mates to elderly in need of help with housekeeping, food preparation, transportation and personal care. [43] Conceivably this service could also provide shorter term caregiver relief.

Another example of a new idea based on an old principal is the **"Barter Exchange Services"**, a networking system of services currently gaining momentum in the U.S. that is based on a self help bartering system where families involved in caring for elderly relatives at home exchange services. [43] For instance, one party might have a car and be able to provide transportation to another who needs respite care in exchange for assistance with housekeeping or making meals. The possibilities are quite endless and the exchanges could be organized through a voluntary agency. In Canada, there are numerous seniors' self help groups that could act as vehicles for this type of initiative.

"Caregiver support groups" as well as programs aimed at providing information to people caring for an elderly relative are starting to emerge. For example, a caregiver support group has been initiated in Ottawa-Carleton which meets once a week to exchange information and seek advice. The group was initially formed after an overwhelming response on the part of the community to a day long workshop for caregivers. [174] A similar initiative is operating in Niagara county in Ontario. [134]

St. John's Ambulance is piloting two education programs - **"Caring for the Aging"** and **"Healthy Aging"** on a national basis for seniors and their families to help them cope with the demands of aging and staying in their own homes. The course topics include stress control, how to ensure the comfort and safety of the home, facts about the aging process, nutrition, how to handle medication, among others. [17] A similar approach to supporting the caregiver has been introduced by the Department of Gerontology and the Center for Continuing Education at Mount Saint Vincent University in Halifax.

Called **"Care for the Caregiver"**, the project which was funded for a three year period by Health and Welfare Canada under its Seniors' Independence Program, is aimed at providing education, information access and emotional support to non professional caregivers in rural and urban Nova Scotia. As part of the program, a series of six week workshops will be held in several cities and broadcasted to the rest of the province over the University's distance education via television (DUET) system. The project is also planning to establish a provincial resource center in the University's Gerontology Department to continue the educational programs for caregivers. [119]

The contribution of the private and public corporate sector to a growing number of caregiver support programs must also be acknowledged. **"Employer initiatives"**, although small in number, can be found in Canada and elsewhere. The "Elder Care Referral Service" (ECRS) is a program that provides personalized consultation, extensive consumer information and active individualized searches for referrals to IBM employees, retirees, and their spouses through a network of 175 community organizations in the United States. The program, which is employer supported and focuses mainly on the caregiver, was initiated in response to a 1986 feasibility study which showed the difficulty family members encountered in trying to find appropriate assistance for an elder parent or spouse. Although ECRS is not considered a case management program (examples of case management approaches are given in the next section), it does include some of the elements such as assessment, planning, referral and monitoring. Each employee using the service receives an Elder Care Handbook which is designed as a useful guide for all caregivers in understanding what types of elder care services exist. [130]

A recent survey by the Conference Board of Canada on the benefits, practices and policies offered by Canadian organizations to assist workers who are caring for elderly relatives, showed that a small proportion of Canadian companies provide some form of assistance. About 2% of the 370 or so employers who responded said they had benefits to help employees care for elders either at home or in an institution, and about 1% indicated that their organizations offered or provided access to elder care facilities. [126]

New directions in the co-ordination and delivery of services to the high risk 75+

A crucial part of being able to provide the necessary support to allow high risk elderly to remain at home is the ability to identify who these people are and to be able to accurately assess and manage their needs. It is fairly clear that a combination of factors make the population aged 75 and over more vulnerable to a loss of independence, however, there is still a lack of screening tools designed to determine what in the way of community interventions are necessary for this target group. As well, it has still not been resolved as to how best deliver services to this group.

Among the most recent initiatives are programs (actual and proposed) or plans that take a co-ordinated and holistic approach to assessment and service delivery. Those which are briefly discussed here are found in different jurisdictions and include: (a) The Case Management Approach, (b) The Community Options Program, (c) The Life Care at Home Plan, (d) The Community Living Approach, (e) Models where housing meets services to assist high risk tenants, and (f) The Quick Response Team.

(a) The Case Management Approach

Case management will be discussed in a generic way since there are a number of models and many variations within the models. In common terms, case management is the co-ordination of a specific group of resources and services for a defined group of people. It has been seen by many as a panacea to improve health and human services by making them more accessible, more appropriate and of higher quality. [86] Case management has some important components, which seen in a sequential way include: (1) case finding or screening to identify people in the target population who may require services (2) assessment to determine any individualized unmet needs (3) care planning which requires decisions about how the needs identified in the assessment can be met (4) implementation of the plan (5) monitoring both the progress of the client and the adequacy of the services given under the plan, and (6) reassessment or formal follow-up at intervals to gauge continuing need. The extent to which each of the components is carried out depends very much on available resources and the authority structure. [86]

Case management as a concept is not new, but innovative models aimed at the frail elderly are constantly taking shape. For example, there are models that take their root in an established multi-specialty medical group practice. The selected case manager on the team takes the responsibility for co-ordinating the activities of the team, program planning, networking and engaging in joint ventures with other community agencies and organizations in serving the elderly. Most sites encourage extensive use of volunteers, usually retired health professionals, to assist in the initial screening and assessments. [11] Specialists are constantly refining the screening tools to better identify high risk seniors. The medical group practice approach is becoming quite common in both the United States and Canada.

Another approach centers on the community agencies themselves and capitalizes upon the existing synergism and co-operation that already exists among most agencies. In one demonstration project in the United States, "The Living at Home Program", (LAHP) a lead agency has been funded at each site to implement a voluntary network of affiliates whose joint task is to streamline access to care for the elderly, reduce duplication of services, identify consistent service gaps, and devise innovative ways of filling them. [81] A number of LAHP demonstration sites have been established to target different sub populations including frail inner city seniors in different ethnic neighborhoods, seniors living in single room downtown hotels, seniors at risk of becoming homeless due to inner core redevelopment and resistant elderly (i.e., street people). The LAHP program is being evaluated by researchers at Northwestern University in Evanston, Illinois. [81]

Debates continue over the most appropriate organizational location/ professional group/programmatic affiliation for the service and whether or not the case management function should be separated from the delivery of services as well as whether the managers themselves should have a medical or social work background. However, regardless of whether case management services are more appropriately provided through a health or social service agency, most provinces in Canada are taking a more centralized approach to service delivery. The Manitoba model of community based long term care, for example, operates out of the Office of Continuing Care under the provincial Department of Health and co-ordinates delivery through ten regional catchment offices. A one stop assessment is carried out by a nurse and a social worker, and services are organized by the appropriate case co-ordinator according to the assessed needs. The model links both the institutional sector (personal care homes) and home care under a concept of continuing care. In Nova Scotia, health, social and housing services are arranged through a very recently established home care program operating at the community level throughout the province.

(b) The Community Options Program

An example of a high risk assessment approach,"Community Options", is currently being piloted in South Australia. [1] The program is aimed at delaying entrance into residential care type facilities and is based on principals that could be transferred to other forms of institutionalization.

What actually occurs is an independent reassessment of people who have already been assessed as requiring forms of collective residential care and are on short term waiting lists. The purpose of the reassessment is to determine what the overriding factors are that are necessitating the move. The program focuses on these difficulties and provides the necessary interventions in the home either through existing community services or the establishment of new ones where needed. The Community Options co-ordinator plays a key role in ensuring that the needed services are in fact received. The program is operated in association with eight Aged Care Organizations.

The Australian community options program was recently evaluated and a number of strengths were noted. Foremost among these was the general consensus that the program raises both the quality of life of users (compared to those moving into residential care options), and is cost effective, with government expenditure being lower than for types of residential care. [1] It uses very little in the way of capital costs and has a part time staff of 13 people plus the co-ordinator.

A program such as community options could be applied in Canada in communities that take a centralized approach to placement in long term care. A variety of bed surveys, both independent and internal, have demonstrated that there are a proportion of institutional beds in Canada occupied by people that could exist in the community if the options were available. In Ontario alone, this figure has been estimated to be as high as 50% in some institutions. [90]

(c) The Life Care at Home Plan

An example of a finance and delivery model that is aimed at providing services when needed to elderly who prefer to remain at home has been developed by researchers at Brandeis University and is currently being piloted in Philadelphia. The plan, which will become fully operational after 300 members have been enrolled, (as of Jan. 1, 1989, there were 71 members) is being marketed to older individuals between the ages of 65 and 85 who are living within a five mile radius of Jeanes Hospital. The Life Care at Home program will provide comprehensive health coverage and an innovative service package to healthy older people. The pricing of the Plan is based upon two financial and insurance principles. The first is the prepayment of future healthcare expenses; and the second on cost pooling. Based on these two principles, a comprehensive array of services can be provided at a cost per individual which is less than the individual could otherwise purchase them. Actuarial projections have shown that at least 300 members are needed as a minimum break even point.

The plan's contract provides three types of services to participants: (1) a core package of services which includes acute care; short term skilled nursing care; short term personal care; home health care; homemaker assistance and occupational speech and physical therapy; (2) a supplementary package of services available on a co-payment basis includes respite care, day care, home delivered meals, prescription drugs, long term personal care, long term skilled nursing care, and routine podiatry, dental and eye care; and finally (3) the third type of service, includes home maintenance, lawn service, snow removal and financial and legal planning. As well, an emergency response system will be provided to participants who are chronically ill or living alone. [139] The nucleus of the service will exist at the Jeanes Hospital. An individual who joins the Life Care at Home Plan can expect to pay an entry fee ranging from $6,750 to $10,500 U.S. and monthly fees of about $200 in addition to Medicare coverage. In spite of the costs, the program was recommended as one that could assure both access to services as well as living in a secure environment to those who could afford it. [29]

Although Canada's health care system differs from that in the United States, there is potential for private insurance companies to explore this type of option here in this country.

(d) Living in the Community: New Directions in Residential Services for Frail Elderly People

Aimed specifically at the frail elderly, this new initiative by the Ontario Ministry of Community and Social Services (MCSS) (in co-operation with the Ministry of Housing) is still at the policy stage and is targeting its program at existing non profit housing projects with high concentrations of elderly people. The program may be expanded to include the development of supported independent living services in small well defined neighborhoods with high concentrations of elderly residents. The purpose of the program, according to the initial consultation paper [89] is to enable elderly persons with frailties to continue to live in their own apartments or homes as long as possible and appropriate.

There are two types of service models proposed - supported independent living services that will assist frail elderly people who, as a result of physical, mental or social needs, are no longer able to maintain their independence in their homes without the benefit of a comprehensive and intensive program of support tailored to meet their individual needs, and supervised community living services that will assist people who, for the same reasons, require extensive support and supervision on a 24 hour, 7 day a week basis, in order to remain safely and securely in a supportive housing environment in the community. In some cases an entire floor or wing of an apartment building may be designated for supervised community living. Other settings might include supervised family care homes or small community residences. [89]

Although they vary in intensity, both types of service concepts could include supports such as 24 hour availability of emergency response, daily personal security contacts, housekeeping services, meal services ranging from assistance in the planning and making of in home meals to congregate dining, assistance with shopping, personal assistance with activities of daily living such as dressing, bathing etc., assistance with personal affairs such as letter writing, bill paying etc., and social or recreational services. It is proposed that, in either concept, the client's professional health care needs must be met on a visitation basis. [89]

One of the key elements of the program is the staffing support since these individuals are the link between the client and the appropriate support services. There are two types of personnel proposed - a services co-ordinator who is responsible for organizing a system of responding to clients' needs for support (including the development of an individualized service plan) and an emergency response system as well as the co-ordination of services with the client's informal support network of neighbors, family members and friends; and elderly service workers who are personal care workers with specific knowledge about the needs of frail elderly people and are trained to assist seniors with a variety of activities of daily living.

Funding and policy responsibility for the new service models will be shared, where appropriate, between the Ministries of Housing and MCSS under the supportive housing initiatives of both Ministries. Under this arrangement, the Ministry of Housing would provide the shelter or construction of housing and MCSS would support the provision of social services. Clients will be expected to pay up to the full cost of the services they receive in accordance with their ability to pay. The income test employed by the Ministry of Housing for the determination of client contributions for rent geared-to-income housing will be applied for the determination of the ability to contribute to the cost of the individual service plan. [89] It is proposed that a single social service agency, operated by a municipality, Indian Band or charitable organization, will be responsible for the provision of the range of social services in the supportive housing environment. The agency will also be responsible for the recruitment, training, supervision and monitoring of the activities of the front line staff.

MCSS has set aside both operating and capital funds for this new initiative and is currently accepting proposals from interested groups. A number of sites have already been supported, and an independent ongoing evaluation of the program is planned.

(e) Models where housing meets services

The issue of effective (in terms of quality and cost) service delivery to high risk individuals in the community is a continuing debate and this report cannot pretend to provide the answers. However, there are some models currently being employed in Canada in a number of government assisted rental housing buildings with disabled tenants that may provide some insight into how one might maximize community resources for the frail elderly. Two examples that illustrate how services and housing can be successfully combined are in Metro Toronto and one in the City of Edmonton.

City-Home, the City of Toronto Non-Profit Housing Corporation responsible for both the supply and management of a number of apartment complexes for low income families and seniors, has successfully accommodated quadriplegics in independent apartments for some time. These are tenants who want to carry responsibility for themselves but who cannot be sustained outside of an institution without a well managed support program. The housing is in a downtown location and has been designed to give handicapped people maximum opportunity for independence. Along with the housing, an attendant care agency located in the apartment building provides the support services so essential to this population. [64]

A variation of this option is provided by the Metropolitan Toronto Housing Company Ltd. to house another group of quadriplegics in a large family apartment building in North Toronto. In this case, the attendant care agency is located off site and is under the supervision of a staff person in the building, who organizes the 24 hour a day service in participation with the users.

A third example is located in the City of Edmonton where a building designed for disabled tenants offers them affordable, appropriate housing and a resident service delivery team. The team is a commercial agency that has been given a service contract. One apartment in the building is used as a service center by the agency. [64]

These types of initiatives demonstrate that it is possible to provide a supportive environment for very restricted individuals who wish to remain at home. The models described above can most certainly be adapted for use in seniors' rental apartment buildings with aging tenants, particularly in those buildings where "hard to fill" bachelor suites lay vacant.

(f) The Quick Response Team (QRT)

The QRT was established in Victoria B.C. to prevent the unnecessary hospital admission of frail elderly people. The team consists of health care and social workers and operates seven days a week, late into the evening. It provides immediate, intensive home support services to allow patients to return home after treatment in the emergency department. The project, which was funded by the B.C. Ministry of Health, began operation in October 1986 as a six months pilot in response to a persistent and costly problem of hospital acute care bed blockage by elderly people awaiting placement. An evaluation of the pilot showed the QRT to be effective in preventing unnecessary or inappropriate hospital admission. The service is now ongoing and has a staff of more than two dozen including a full time supervisor. [23]

The team operates in conjunction with two area hospitals. The decision to provide QRT services to a patient is made by the QRT liaison nurse, along with the physician and the nursing staff treating the patient in emergency. In some circumstances, patients can also be referred by community physicians, however, in both cases only those patients who would otherwise have to be admitted to an acute care bed and meet the other criteria are eligible for the QRT. Additional criteria include:

- caregiver too frail to look after patient's needs;
- patient lives alone;
- patient experiencing temporary confusion;
- patient requires less than 3 hours nursing care in a 24 hour period;
- patient is at least 60 years of age;
- the delivery of services is possible (i.e., patient has a home and is not transient).

The additional services available to eligible patients include 24 hour homemaker and home nursing care (including live in if required) as well as short term respite care beds, adult day care and counselling of the caregiver. The QRT is intended to be an intensive short term service and will normally serve a patient for up to five days. At that point, the patient is transferred to regular Long Term Care, Home Nursing Care or physiotherapy. Although younger people qualify, the typical QRT patient is over 80 years of age, female and living alone or with a frail spouse. [23]

3.2 Choosing to Move

For Canadians 75 years old and over who, for one reason or another find that they cannot, or do not wish to stay put in their homes, there are a number of other housing alternatives open to them. Some may wish to move closer to their family and friends. Others may choose to live with peers in a condominium or rental apartment, or a form of retirement housing with various levels of services. The range of services available can vary greatly and some retirement housing alternatives are more able than others to meet the needs of the 75+.

3.2.1 Living Close to Family and Friends

A variety of living arrangements allow seniors to live in independent units while residing close to, and obtaining informal support from, family and friends. There are also opportunities for mutual support and enhanced security. For example, many families purchase or rent a duplex house where a single or elderly couple occupy one unit, while their relatives (or friends) occupy the other. Other families bring an elderly parent or parents into their home and create a self contained apartment as was discussed in Section 3.1.2. Given the appropriate community based support (such as those described in Section 3.1.3) to complement the informal support, these arrangements could preclude the need for institutional care for some seniors. Additional types of accommodation that facilitate these living arrangements are as follows.

Bi-Family Units - Bi-family units comprise a pair of semi-detached dwellings, one a family unit, usually two storey, and the other a small one storey unit specially designed to meet the housing needs of older people. Unlike an accessory apartment, the secondary dwelling can be identified from the street and has its own street entrance and civic address. A door can be added between the two dwellings, and the garage can be for one or both households. This is a new concept that allows for a maximum degree of independence. To date, only one of these units has been built in Canada (Laval, Quebec).

Garden Suites - Garden suites are small (45-63m^2) self contained one or two bedroom houses designed for seniors that are usually placed on the same lot as the home of a close family member. Alternatively, older people may choose to place garden suites on their lots, for their own use, and then make the house available to relatives and friends. The suites are portable and are meant to be removed from the site when no longer needed. The garden suite is a relatively new option in Canada, however, the results of demonstration projects across the country have indicated initial success.[56]

Both public and media responses have been generally favorable. The greatest obstacles lie in municipal zoning regulations which currently restrict the erection of garden suites in most urban neighborhoods.

Evaluation studies carried out in Canada [124] and elsewhere [72] have discussed the benefits of the garden suite option for older people. Their conclusions were similar in that this type of housing was seen as having the potential to provide a very supportive arrangement for elderly occupants. Families currently involved in pilot projects in Ontario did not perceive the care they were giving as burdensome and often help was reciprocated.

As part of assessing this option for Canadians, a national market survey was recently conducted by Gallop Canada Inc. on behalf of CMHC. [56] The sample included both potential garden suite occupants as well as host families. A portion of the total sample were self selected to receive more information about garden suites and were subsequently asked more detailed questions. The results were very encouraging and the overall reaction to the concept was considered very positive. A follow-up analysis was undertaken (for the purpose of this report) of some of the answers given by survey respondents who were 75 and older (N=94).

One of the questions asked respondents to rate a number of characteristics of the garden suite on a rating scale of 1 (very poor) to 10 (very good); 5 was considered neutral; for the purpose of this analysis, a score of 6 or higher was considered good. More than two-thirds (68%) of the 63 respondents who answered these series of items and fell into the 75 and over age group rated the design (including exterior appearance) of the garden suite as good. Over half also gave favorable ratings to the facilities (such as kitchen, bathroom, etc.) (59%), the space (roominess in living room, bedroom, etc.) (56%) and the privacy aspect (54%). Almost three-quarters (74%) of the 75+ respondents said they would feel comfortable living in a garden suite.

Respondents were also asked which support services they felt would be necessary in addition to the help they would receive from their children. The service rated as the first priority by those aged 75 and over was an emergency response system (60%), followed by a home care service such as housekeeping (47%). Health care services, such as visits from a doctor when necessary, as well as a transportation service, tied for third in the list with 40% of the respondents giving each of these types of services top priority. Team members also rated the garden suite quite favorably in terms of its potential to meet the needs of people over age 75. It was seen as a solution that can provide a safe, secure and affordable living arrangement, but where availability of support services and accessibility to other amenities was very dependent on location. If this option becomes more of a reality in rural areas where zoning restrictions and attitudes are more conducive, it will be more challenging to link residents with services. However, people living in garden suites are an identifiable group who can be targeted by health and social service agencies for the necessary interventions to prevent or delay institutionalization.

Although currently operated on a rental basis through government pilot projects (such as the one by the Ontario Ministry of Housing - "Portable Living Units for Seniors [PLUS] Demonstration" [1987]), the garden suite option can be private sector driven. Costs of manufacturing the structures are currently estimated at between $20,000 and $30,000 (U.S). [72] The provinces of Alberta, Quebec and New Brunswick have all recently initiated to undertake demonstrations on garden suites.

3.2.2 Living with Peers

Many older adults prefer to live in a more collective setting with others of similar age. These options can include conventional forms of multiple housing such as condominium or rental apartments, and co-operatives, as well as smaller group settings such as adult "foster care" or Satellite Homes. There are also many multiple unit residential options specially designed for seniors which come under a host of titles such as congregate housing, retirement communities, sheltered housing, and multi care facilities, among others.

Conventional Forms of Housing

The following housing options are termed conventional because, for the most part, they have not been designed and constructed with seniors or other target groups in mind. It is the living arrangement itself and/or access to health and social services which transforms these forms of housing into supportive environments.

(a) Condominium and Rental Apartments

Condominium housing arrangements - either high-rise, low-rise or row house, have appealed to many "empty nesters" as an option that combines the advantages of ownership with the freedom from home maintenance through a monthly fee to management. However, in the cases of both condominiums and most private sector rental apartments occupied by seniors, neither the consumer nor the supplier/provider have paid attention to the design features that would make it possible for residents to live in their home comfortably into an advanced age. In many cases, the residents themselves or through their association, oppose the sorts of modification required, for fear that the "profile" of their building will change. What the condominium setting can offer to those seniors with the financial resources to purchase them, is freedom from exterior home maintenance and yard work and the social interaction and security that comes from having neighbors in close proximity. [3]

There are some recent private sector initiatives that appear to be addressing the issue of supportive living for seniors who wish to move to conventional housing, however, their success has not been determined. For example, there are a number of consulting firms who provide guidance to developers building seniors' condominium or rental projects with respect to design elements and service packages. Some include prospective buyers as well as the builders in the consultation process.

There are also many recent for profit developments, usually rental and aimed at the more affluent consumer, that offer mainly bachelor suites, and some one bedroom or two bedroom apartments in a building with some services. The services are often at an additional cost and can include meals, housekeeping and personal care. Many of these developments are not attracting full occupancy, however, evaluations have not been carried out as to why this might be the case. One theory is that the market for "high end" housing has been over estimated by many developers; another is that the appropriate combination of services, housing, and cost has not yet been found. [59]

(b) Seniors' Co-operative (Co-op) Housing

An option that is gaining recognition in some parts of Canada as an alternative for modest income elderly is resident funded co-op housing. And in fact, as was discussed in Section 2.1.1, the high cost of their former housing was the primary motivator for a sample of members of several seniors' co-ops who responded to a survey of residents, to choose this option. [144] At the present time, most co-op developments in Canada are not aimed at the very elderly and appear to be most suited to couples in their sixties and early seventies. The designs are not overly sensitive to "aging in place" and services packages are generally not available. In order for this option to appeal to people over 75, more than the affordability issue will have to be addressed. [62]

Team members were in agreement that co-op housing in Canada has the type of organizational structure that lends itself to the development of a supportive community. Many co-op sector resource groups have on staff adult educators who work with members in managing and maintaining the co-op. These educators could be used to assist seniors to create and sustain the necessary supports in their buildings. The co-op could ensure that space is provided in the building to bring in services such as meals or housekeeping, when the residents decide it is timely.

Although the co-op movement in Canada is still relatively small, different organizations are initiating new ways to provide a supportive living environment. A number of co-ops across the country are taking an "integrated" approach to housing which appears to be very successful. One example is a mixed age project in Toronto. According to the residents, there is a considerable amount of mutual help being exchanged between younger and older members. As well, each floor of the building has a floor captain who keeps an eye out for anyone, particularly a frail elderly resident who might need assistance.

Another case, this time in the City of Ottawa, is quite unique because it blends families with children, disabled people and seniors in a barrier free environment. The co-op is a mixture of bachelor units, 2 and 3 bedroom apartments in an independent setting. Not only is there mutual informal support, but there are also some formal support services available (arranged through local social services) including information referral, non medical care (such as housekeeping and assistance with personal care), security measures and respite care. The building has access to about 100 volunteers. [48]

A co-op targeting single elderly women has recently been initiated in Vancouver, B.C. Special features such as wheelchair accessibility has been included so that as co-op members age, they can adapt their homes if necessary. [62]

(c) Adult Foster Care and Satellite Homes

Both of these options are variations of the concept of home sharing and are targeted at elderly people with more severe health related problems who prefer to live in conventional housing and in a family setting. "Foster care" is an option that is quite widespread in the United States and is gaining recognition in Canada. There are currently about 19 programs operational in Manitoba alone. Foster Care is an arrangement where couples or families are paid by the government to take care of an unrelated elderly person with very little means of support, not able to care for him or herself. Dependent on the skills and willingness of the host family, this option can prevent or delay unnecessary institutionalization.

The definition of "foster care" varies, however it is generally described as a single family household with no more than four non relatives living in the household as paying residents. [97] Another important criteria, one that distinguishes this option from a boarding house, for example, is that the residents function as part of a family and participate in normal family activities. Because foster homes are ordinary private family homes they can integrate well into a neighborhood, and experience far fewer zoning barriers than other options. Their potential in the U.S. is seen as relatively high because of (a) the number of older people with chronic health problems, and (b) the rise in the number of people who live alone. The quality of the homes can vary, however, and regulations, where they do exist, are sometimes difficult to enforce. [97]

Foster care has been termed by some as a better alternative than many other community care options for the very frail elderly, since hosts are able to provide 24 hour supervision. [121] However, the extent of health related care available is dependent upon the home's linkage to other service providers in the surrounding communities. There are currently a number of ongoing demonstration projects in the U.S. - some hospital run - that are evaluating the different and most appropriate ways to offer foster care to elderly persons in the community most at risk for institutionalization. [95,157]

A number of communities throughout Canada operate a form of foster care - called the satellite group home. As in foster care, several elderly people who need support are placed with a family in a conventional type of housing that is suitable for group sharing. One of the differences is that the home is usually linked to an existing facility such as a Home for the Aged and the residents are transported to the facility for various day programs. This option provides added security and access to services, at the same time making use of existing housing stock. There are 35 satellite homes of this nature operating in Niagara county in Ontario and officials there have estimated that it would cost about $400,000 a year more in the way of capital costs if these residents were living in Homes for the Aged. [134] The foster care or satellite home was rated by team members as an excellent solution for people 75 and over (as well as others) with limited financial and social resources who want to remain in the community. For those with severe health impairments, however, this option may not be ideal and may only be possible if the home is tied very closely to formal services.

Housing Designed for Seniors

The number of housing options specially designed for seniors or converted to meet the needs of seniors, in Canada as elsewhere, is on the rise. Some are fairly widespread and exist in almost every community; others apply only in specific locations. Some offer on-site service packages; many rely on existing services in the community; and others offer a combination of both on-site and community services. The options highlighted in this section take a residential approach to housing rather than a care approach, although the latter, which is commonly found in long term care institutions, is discussed later in the section with respect to its potential to interface with residential alternatives in the community.

Probably one of the most challenging issues in discussing residential housing options designed for seniors is sorting out the various definitions associated with group living alternatives. These arrangements can vary in size, (both in terms of number of residents and number and size of units), level of privacy, number of common services and amenities, cost to the resident, sponsorship, staffing and resident interaction. The options that are presented here include: (a) Retirement villages or communities, (b) Congregate housing, (c) Sheltered housing, (d) The Abbeyfield Model, (e) Residential care or group homes, (f) Assisted living, and (g) Multi Care facilities. Each alternative is discussed briefly with respect to its potential for meeting the needs of the 75+.

(a) Retirement Villages or Communities

Retirement villages usually consist of several hundred to several thousand (particularly in the United States where larger communities are the norm) independent dwelling units sharing some communal services. The dwellings can be mobile homes, conventional bungalows, clusters of row houses or clusters of small apartment buildings and can be leased, rented or owned. Most communities offer recreational space and organized activities and some have dining facilities, offer housekeeping services, assistance with maintenance and provide a medical center. Depending on the nature of the services offered, additional monthly fees usually apply. Retirement community living, while once an option for more modest income seniors, has become considerably less affordable. Most new developments in both Canada and the U.S. are now being built with a more affluent market in mind. Traditionally, retirement communities have also catered to the active "well elderly" and there is some reluctance on the part of community members to change that image. For people over 75, with failing health, the most common types of retirement communities are not suitable, evidenced by the high attrition rate of people in their 70's and 80's who need extra support.

There are instances (mostly in the United States) where retirement communities have tried to address the issue of their aging population by either building on site medical facilities at the same time that the community is being developed or introducing them at a later point in time. The newest developments also almost always provide emergency response systems. However, others have adopted firm policies against offering on site nursing care and encourage residents to utilize services from the surrounding communities. [103]

Team members felt that retirement communities were capable of meeting many of the needs of people over 75, particularly those to do with carefree living, security and access to amenities. However, increased supports either on site or through interaction with the local municipality to deal with aging residents need to be encouraged. In a recent survey of owners in a retirement community in Alberta, the vast majority of respondents stated that they hoped this move would be their last. If support services were required because of failing health most chose to arrange off site help on their own. [140] This may be typical of the response given by the more affluent well elderly who choose this option. Retirement communities, in their most recent forms, may not be accessible to seniors with more modest means.

(b) Congregate Housing

Congregate housing is described in a variety of ways, but is generally defined in Canada as a type of housing development where occupants have their own private self contained living quarters but are also offered at least one meal a day in a common dining room, assistance with housekeeping, 24 hour security and personal care (although this latter component varies by project). The size of the projects can range from about 50 units to several hundred in newly constructed or reconstructed developments. The concept of congregate housing originated in the United States and is still fairly new in Canada, but in areas where it does exist it is attracting seniors who want the independence of their own apartment while at the same time having the assurance of assistance if required. Most residents enter congregate housing at around 80 years of age and there is some evidence that although their wish is to stay, a further move is often necessary. Inspection of several projects in B.C. provides some answers as to why congregate housing is having mixed success for the over 75 population.

The first, a private sector development located in Lower Mainland Vancouver, is situated close to a suburban shopping mall. The building contains small one bedroom and two bedroom suites designed with accessibility in mind but with minimal kitchen facilities. Project amenities include hobby rooms, library, lounges, dining room, beauty parlor/barber and a minibus. There is a weekly housekeeping and linen service, two meals a day plus snacks and 24 hour security. It caters to people with more substantial financial resources who are able to pay rents above $1,000 per month (June 1988). After about a year since it opened the project was still only half rented. The average age of the residents was 82. About one-third of the original tenants had already moved out. According to the leasing Manager, potential residents were most concerned about services including care, the quality of the meals, what would happen if they got sick and the cost. Although the building was well designed for aging in place, it was argued by locally involved parties that the lease up might have been faster if they were able to provide a higher degree of personal and nursing care and if the project had a better location.

In contrast to the experience above, another privately owned congregate development established in West Vancouver with 66 fully functional bachelor, one and two bedroom units has been able to successfully market their project. Although many of the services are the same, a major difference is that the congregate development is adjoining a care facility which provides nursing and personal care that is also available to residents in the congregate units if necessary. Rents are higher than in the suburban project but include access to the nursing staff in the care facility, as well as up to five days in the care center at no extra charge. It is interesting to note that at first the congregate units were renting more quickly than the care units, however, now the reverse is true and the management is having some difficulty filling all of the congregate apartments. Reasons given are that the rent is too high for the level of service offered, however, it is also possible that the congregate development is targeted for an "in between" market which does not exist. [58]

In Canada, there are also congregate developments initiated by the not for profit sector. As in the example described above, a number of these have successfully incorporated apartment living with a type of care option. One project which appears to have found the right combination for success is located in the borough of York in Toronto. The development was initially built to accommodate primarily older single people, a group that was targeted as having the greatest need for housing with some services. The first tower consisted of about 300 primarily bachelor apartments and included a meal service and assistance with housekeeping in the rent. Due to the demand, a second tower of equal size was added which also included a staffed 4 bed nursing station for short term care. At least three factors have been attributed to the success of the building. The first was the modest rent; the project draws most of its tenants from a surrounding neighborhood of mainly small lower cost homes (relatively speaking for Metro Toronto), and so in spite of the fact that bachelor apartments have not always been successful elsewhere, this appears not to have been an issue here. The second factor was the shelter package that provided residents the opportunity to age in place; and the third was in the number of units which was sufficient to be able to incorporate the nursing care option into the modest rent. [64]

There is evidence that the congregate housing industry is trying to respond to their aging population. In one of the newest west coast private developments outside Victoria, a package is offered that includes three meals a day, 24 hour staff, as well as assistance with bathing, in addition to the common amenities already described. There are also a variety of well appointed individual units offered, ranging from studio size to two bedroom. The rents are, however, high - currently $1,400 per month for a studio to $2,250 for a two bedroom apartment. [37] (Consultant's key informant interview, B.C.).

(c) Sheltered Housing

Another form of supportive housing for seniors with roots in Great Britain but whose existence can also be found elsewhere is sheltered housing. Forms of sheltered housing have existed for at least twenty years in England (some sources say longer), and are provided and managed by over 700 housing associations and scores of local authorities. [118] Although initially government sponsored, sheltered housing has of late become a very fast growth activity in the private sector. In 1969, the British government established two categories of sheltered housing: category 1 consisting of purpose built self-contained flats or bungalows linked through an alarm system with a warden (who arranges help, provides some supervision and looks after general maintenance) but often with no common room or shared facilities; and category 2 which is usually identified as a scheme having all of the above and where the individual flats or bungalows are linked by heated internal corridors and other shared facilities such as a common room, laundry area and a guest room. There is also an unofficial "category 2 1/2" which is used to describe smaller individual homes - usually bedsitting rooms - and added supports (see housing-with-care described below). [118] A few flats in each development are retrofitted for the disabled and provide more space for wheelchair accessibility. If extra help is required, it is provided primarily by domiciliary home care services in the surrounding community. The size of the developments vary but average between 20 and 50 flats. Sheltered housing traditionally is directed towards older people who wish to remain independent in the community but with some security that someone is watching over them.

In response to the fact that there were gaps in the support that sheltered housing could give to very aged residents, a finding highlighted in numerous evaluations by Tinker (1984) and others, [52,172] extra care or "very sheltered" housing was introduced as an extension of the warden serviced option in some schemes. This option, also called "Housing with Care", allows residents to retain the privacy of a small apartment (usually a bedsitting room, bathroom and kitchenette) but offers on site meal services, as well as assistance with housekeeping and personal care if required. [4] (An excellent visual description of the various forms of shelter housing in Great Britain can be found in "Housing for the Elderly: Options and Design" by Francis & Francesca Weal, 1988).

Two of the more well known providers of a form of sheltered housing are The Abbeyfield Society (founded in 1959) and Anchor Housing Association (founded in 1968). The Abbeyfield model is distinct from other types of sheltered housing in a number of ways. One of the fundamental differences comes in the general approach to housing the very elderly. While sheltered housing in general strongly emphasizes that residents remain independent in the privacy of their own flats and arrange their own help (with their own physician rather than a physician that looks after all residents) when needed, Abbeyfield, including "extra care", stresses "interdependence" among both residents and residents and staff and offers less private space to individual residents. The latter projects are much smaller in scale making the "sharing" atmosphere much easier to achieve. In 1985 there were almost 600 Abbeyfield local societies managing about 900 houses with 20-25 new societies being formed every year. 118 (See below for further discussion of Abbeyfield) Anchor Housing currently manages over 19,000 units for rent across Britain in about 600 developments. The vast majority are one person flats, and over half are occupied by people between the ages of 75 and 84. Almost all of Anchor's developments are category 2, however, the association has also developed extra care schemes quite widely. Guardian Housing Association Limited is affiliated with Anchor and provides private retirement housing for sale and leasehold schemes for the elderly. The leasehold scheme allows housing associations to discount the usual selling price by 30% which is in turn paid as a grant by the government with the purchaser paying the remaining 70%. Upon resale, the original purchaser receives only 70% of the then market value. Guardian has over 3,000 houses in their stock in about 100 developments. 165

One of the criticisms of sheltered housing in Britain is that, although residents who value their independence and privacy report a very high level of satisfaction with their living arrangement, research has shown that it has not helped decrease the isolation of some very old people. 164 It may not be the ideal solution for elderly people living alone.

Both traditional and extra care forms of sheltered housing have been found to cost the same or more than keeping people in their own homes with shelter options such as an alarm system and home care services 13,164 and it may be beneficial to explore ways to provide sheltered schemes in non purpose settings. Sheltered housing, although usually purpose built, does not have to be and this is where this type of option may be more flexible than others. An example where a form of sheltered housing was set up in a conventional neighborhood can be found in Philadelphia, U.S.A. where what is referred to as "community housing" has been in existence for about ten years. 3

This particular housing option combines the use of existing housing stock with the provision of back up services from a nearby Geriatric Center. Originally, nine one family, semi-detached homes were purchased and converted into a total of 27 (3 per home) self contained efficiency apartments with a shared living room through a rehabilitation program of the Federal Housing Administration. Rent supplements were introduced so that the units were affordable. The basic rent included outside and common area maintenance services, a "hot line" phone connected to the Geriatric Center for medical or other emergencies, and recreational activities. Residents are expected to do their own shopping, cooking and personal housekeeping, however, a meal service and light housekeeping can be purchased from the Geriatric Center. Medical services are not included and tenants retain their own physician.

Some of the reasons given by older tenants as to why they moved into the housing project in Philadelphia were fear of isolation, and loneliness because of the high crime rates in their former neighborhood. Depletion of family and friends to help was another motivating factor. [3] Deteriorating health also played a role evidenced by the fact that new residents were generally less healthy than a comparison group that did not move. The success of this approach to house people over 75 in the U.S. holds promise, according to evaluation researchers, if existing agencies can be encouraged to expand their programs to include small group residences. [3]

(d) The Abbeyfield Model

Although the Abbeyfield model is a British concept, variations of this type of living arrangement are found elsewhere (i.e., "share a home" in the U.S.). [3] This type of collective arrangement is distinguished from congregate and other forms of housing described earlier in a number of ways, however, the most fundamental is in philosophy. Abbeyfield was founded with the intention of offering a solution to the problem of loneliness in the elderly, however, more recently the aim has been to house those who might otherwise be at risk in their own homes, but be over-serviced in an institution.

The projects themselves are smaller, ideally housing 6-10 but sometimes more residents; there is less private space -residents have their own bed sitting room, a bathroom and occasionally a kitchenette - and more shared space for dining and entertaining. There is an on site housekeeper who oversees meals and general operation and residents are expected to share in carrying out many of the day to day activities such as cooking, etc. Additional services, if needed, are brought in from the community. Because of the small size scale of these homes, they are more likely to be situated in ordinary neighborhoods and lend themselves to conversion of large older homes.

There are a number of Abbeyfield homes in British Columbia (in Sidney, Kelowna and Victoria) fully operational now, on a non profit basis, and several more across the country (in Guelph and Port Hope, Ontario) about to start up. A recently completed study [115] raised some important issues about the potential of this option for the over 75 in Canada. Although the general acceptance of the concept of supportive housing was evident in the researchers' interviews with potential residents, most were not inclined to want to give up their larger homes for a bed sitting room. As well, operating costs were such that unless subsidies were introduced, this option would be out of reach for modest or low income seniors, of which the over 75 comprise a good proportion.

Team members felt that for the lonely, widowed and isolated older person, the Abbeyfield approach was ideal. It also provides residents with a safe and secure environment. However, for people over 75 with increasing health needs, proximity to existing services as well as additional on site services are important features. The Abbeyfield Society in Britain has responded to this concern for some time with an "extra care" program which is available to Abbeyfield residents who require additional supports.

"Extra care", although not designed to deal with acute illness or severe dementia, is able to cope with chronic difficulties sometimes leading up to death. Houses where extra care has been introduced require more professional staff, particularly nurses and attendants and ideally should have one doctor from the community available to all residents. The ratio of staff to residents is much higher; for example in a house with 20 residents, there should be at least two live in staff, a number of part time assistants, domestic staff and a cook - with an ideal ratio of 2 residents for every staff. Residents receive 24 hour care with all activities of daily living. Extra care residents are housed under the same roof as regular Abbeyfield tenants, however, in some instances there are separate dining facilities or other communal spaces for extra care residents who require a lot of supervision.

The fact that the extra care option in the U.K. is helping people age in place is evident by the high percentage (70% or higher as of late) of residents who die in the house or, after only a short stay, in the hospital. [143] For people over 75 with a number of disabilities, this type of housing option can be an alternative to institutional settings; one that can be neighborhood based and make use of existing housing stock. However, the approach is still very new in our country and as such has not been evaluated.

(e) Residential Care Homes

Described by some as another form of sheltered housing, [44] small (and sometimes larger) care or group homes that serve older people and/or individuals with physical or mental impairments are very common in both

Canada and the U.S. Facilities in this category fall under a variety of titles including among others; domiciliary homes, lodging homes, rest homes, retirement homes and board and care homes (the latter a term used widely in the United States). What all of these homes have in common is that they are often operated by the private sector, are generally small in size (usually from about 5 to 20 residents) and offer rooms with some services. They differ in the amount and quality of services that they provide and their cost. The range of services can include meals, housekeeping and personal care if necessary. Some facilities also provide transportation and planned recreation. Most are licensed by a regulatory body but some are not, an issue which is constantly plaguing local and higher government levels. Legally, in almost all jurisdictions where they exist, care homes are not allowed to provide nursing care, however many do, since residents often require some form of medical intervention in order to remain in the home.

The average age of residents in some homes is over 80, however, in other instances younger people, usually with severe mental impairments, are also occupying beds. (In Ontario, "special care homes" licensed by the Ministry of Health deal almost exclusively with these types of residents). Many people move into these types of homes not out of choice but because it is the best option available to them in terms of cost, or because they are no longer able to remain in a chronic care bed in a hospital. In spite of this, however, reported satisfaction levels by residents are generally fairly high. Reasons given for the positive feelings include increased security, companionship and affordability. [154]

Although small groups homes provide the advantage of being able to utilize existing housing stock and thus remain neighborhood based, unless the conversions are carried out to maximize accessibility and safety, the physical settings may not always be ideal for the 75+. As well, more emphasis needs to be placed on the service and care aspect of many homes before they can meet the needs of people with varying degrees of disabilities. [4,5] In a recent study on the Board and Care system in Maryland, both residents and regulators as well as some operators were interviewed with respect to how this option could be improved. Residents expressed content with their situation and many stressed the importance of the "family" aspect of their living arrangement. However, both operators and regulators defined a need to have access to more recreational opportunities and available community services as well as case management services to ensure that residents are receiving appropriate care. [44] The province of Ontario has also looked closely at the potential of their residential care facilities to meet the needs of the elderly and has just published the results of a study on regulatory issues affecting the industry. The general consensus is that more must be done to insure a high standard of living for all residents. [2] Both the Maryland and Ontario study acknowledge that a central registry or local inventory of available facilities would serve the public well. (Please refer back to Section 2.2.1 for an example of one local initiative in this direction).

(f) Assisted Living

Assisted living is the newest version of sheltered housing and is very rapidly gaining popularity in the U.S. As with any broadly identified housing form, the concept is depicted in different ways, however, most sources describe assisted living facilities as a form of congregate housing (as described above) with additional intensive services aimed at providing help to frailer elderly residents on a 24 hour basis. The size of facility can be anywhere from 20 units upwards to be economically viable, however, from a client's point of view, 100 units is about the largest size due to mobility limitations, atmosphere etc. Developers of assisted living facilities are both profit making and non profit groups. At the present time, most facilities are attracting middle and upper middle income seniors, however, efforts are in place to provide options for modest or lower income elderly. [42,44,170,171]

Assisted living services are generally offered within the context of a "social model" that focuses on the strengths and capabilities of individual residents and attempts to fill the gaps. To this end, many facilities try to offer a variety of service options with varying costs rather than just total packages as is often the case in nursing facilities. The State of Oregon, considered by some as a leader in this housing field, has seen the development of a number of assisted living facilities. In one project in Washington county, residents live in individual apartments but have access to on site services such as 3 meals a day, housekeeping, assistance with dressing and bathing, assistance with toileting or managing incontinence, and careful health status monitoring by a nurse. These services make it possible to house people who are both physically as well as mentally impaired. [42]

This option is seen as relatively underdeveloped, however, housing providers are striving to continue to meet consumer interest. Different variations of the concept are continually being introduced including free standing assisted living units as well as mergers with existing congregate housing, nursing homes, multi level facilities and enriched service packages in retirement homes. As well, assumptions regarding size, pricing structures, service delivery methods, client mix and development costs are constantly being challenged and reworked. [170,171]

Assisted living facilities appear to have the potential to serve the vast majority of population aged 75 and up and to bridge the gap between most forms of sheltered housing and institutional care. Clients in existing facilities typically have an average age of about 85, need varying levels of assistance from basic support services (i.e., meals, housekeeping and laundry) to more comprehensive care such as assistance with the activities of daily living and sporadic or temporary health care services. Many residents have some form of physical impairment such as Parkinson's, post-stroke paralysis, severe degenerative joint disease, congestive heart failure, etc., and some use walkers or wheel chairs. Other residents may be victims of dementia, including Alzheimer's disease. None are permanently confined to a bed. For many, however, this housing option provides a realistic alternative to nursing home care and it is expected that in Oregon assisted living arrangements will replace at least 40% of the current more costly nursing home beds. 171

(g) Multi Level Care Facilities

Multi level care facilities come in a variety of living and support service environments but are distinguished from the other types of living arrangements described above because they offer two or more distinct types of care (please refer to Figure B-1 for a description and comparison of care levels in Canada) including nursing care for those confined to a bed. Residents are usually, but not always, physically segregated within the facility by their care level. Some facilities are attached to existing hospitals; others also include a complement of self contained apartments. The underlying principal of the multi care approach is an attempt at providing a continuum of care to residents as they age. There are two basic models of multi level care facilities - the one campus model; and the multi-campus or community model. 131

In a one campus model, the buildings (or wings of one building, etc.) are located together on a single campus. The different levels of care can be incorporated under one organization in a number of ways. In some facilities they are found on different floor levels. The heaviest care is often situated on the upper floors so that the main level does not have an institutional character. In other facilities they are located in different wings; and in others in different buildings connected by a common hallway or walkway. The design of the facility has a lot to with the extent of integration among residents from different care levels, but the general consensus is that in most facilities, social or other forms of interaction is fairly minimal. The exceptions occur in buildings where management encourages (either through formal programs or informally) volunteer activity where healthier residents assist those who are less mobile.

One campus multi level care facilities are generally quite large and usually house anywhere from 50 to several hundred older people. They are often newly constructed, however, there are many examples of multi care facilities where an existing structure such as a large school has been reconstructed and an addition added.[24] Funding sources for this type of option has come from both the private and public sector.

Some communities (for example, the Regional Municipality of Niagara, Ontario) are using a multi-campus approach in which facilities are located throughout the community and are administratively linked to provide a continuum of care to their clients. In Niagara, there is a single entry point and assessment process by which clients are then referred to the appropriate option. There is a range or "continuum of services" offered including home care, homesharing, satellite homes or other one campus multi level care facilities.[131]

Multi level care options are thought to have the ability to offer an individual entering the lowest form of care within the system or building the assurance that services are there when needed. In this respect, team members were in agreement that this type of housing alternative has the highest potential for meeting the needs of people over 75. However, in reality some facilities are finding it increasingly difficult to operate under this premise. Depending on the ratio of higher level care beds to residential tenants, beds are not always available when needed. Although this might be alleviated by keeping 2 or 3 beds empty at all times (Zeisel, 1988), there is some debate as to whether or not this is economically feasible. Another issue that is often discussed among experts is whether the inclusion of costlier medical, nutritional, social and recreational services results in or encourages dependency or disengagement from the broader community. At least one researcher has noted that in neither the short term or long term has this been the case. In a B.C. study of residents in a multi level care facility and a comparison group of respondents residing in seniors' apartments without services, no differences were found over time with respect to declines in overall health, functional ability, social interaction etc.[71]

One approach to the provision of multi level care in a one campus setting that is proving quite viable is the combination of congregate housing containing self contained units as described earlier with only minimal services, and more intensive care units. For example, there is a facility in Ottawa, Ontario that combines approximately 120 one bedroom apartments with 50 residential care bedsitting rooms. Residents in the residential wing are provided with meals, housekeeping, personal care when needed and assistance with medication if required, and pay on a per diem basis. Those living in the apartments look after their own needs but may access any of the services available to the full board residents for an extra fee. They also have priority over others in the community for moving into the care option. The project has been successfully marketed to a modest to middle income elderly population and has a long waiting list. Administrators at the home state that even though the average age of their residents in the care option is well into the eighties, that for many it is their last move. There is a general feeling the interaction that takes place between tenants in the apartments and residents in the care wing is stimulating longer well being among both groups. The facility has many activities that foster the interaction in terms of both joint recreational programs and voluntary activities.

Another facility, this time in Newfoundland, consists of a 136 bed nursing home including a protective care wing for persons suffering from dementing illnesses and 30 cottage units for independent living. The facility also offers a number of outreach services to the surrounding area including day care, meals on wheels, respite care and rehabilitative services. The administrators have current plans to add a congregate housing development consisting of a number of private apartments as well as group living arrangements. This initiative came about in response to a 1984 Royal Commission report in the province on Hospital and Nursing Home costs which identified the lack of residential accommodations for those elderly requiring primarily supervisory type care as one of the province's major gaps in the health and social service care delivery system - one that many felt resulted in the often inappropriate placement of clients into hospitals and nursing homes. [14]

There are other versions of continuum of care. An approach which is quite common south of the border but not in Canada is called "Life care communities" or "Continuing Care Retirement Communities" (CCRC's). This option has been in existence for some time but is recently gaining momentum as a result of the increasing numbers of aging residents in retirement communities throughout the United States. [161] A continuing care retirement community is defined as an organization that is established to provide housing and services, including health care, to people of retirement age. At a minimum, the CCRC meets the following criteria: (1) it has independent living units and health care facilities, such as congregate living, personal care, and forms of nursing care; (2) it offers a contract that lasts for more than one year and guarantees shelter and various health care services; and (3) its fees for health care utilization are less than the full cost of such services and have been partly prepaid by the resident. [135] One Florida development is typical of this approach to continuing care where the developers built a shelter package into their initial purchase price in the form of a life lease tenure option with an entry fee of between $70,000 and $175,000. An individual or their estate is refunded 52% of this fee when they leave. The accommodation ranges from a bachelor suite to two bedroom apartments and monthly charges for the use of all facilities range from $625 to $1,250 depending on the size of the unit occupied. The entry fee and monthly charges entitles the member to a set number of days, without an additional cost, in an intermediate or long term care facility associated with the residential accommodation. The acceptance of this arrangement which quite clearly is targeted towards more affluent seniors, is illustrated by the long waiting list for the community. The Life Care at Home Plan described above in Section 3.2.3 is based on the CCRC concept but less costly to participants because it does not include the housing component. A recent study in the U.S. on the marketability of both CCRC's as well as the LCAH plan was very favorable in terms of both options. [161]

Multi level care facilities have been an option chosen by many families of elders suffering from forms of senile dementia such as Alzheimer's disease. Providers and caregivers in long term care settings are constantly striving to improve the quality of life of these individuals and others who live around them. Countries like Sweden have been experimenting with a variety of group living arrangements for confused older people where several or more afflicted individuals are placed together. [155] A Canadian example of this approach exists in Manitoba where one facility experiencing an increase in dementia clients found it increasing difficult to keep residents integrated. [162] The facility changed their way of grouping or categorizing people. While traditionally the staff segregated residents by their physical abilities, most felt that looking at "psychosocial" characteristics was more pertinent and that it was more appropriate for "alert" individuals to live together regardless of whether they were in a wheelchair. Thus cognitively impaired people were also grouped together and the facility was redesigned to accommodate this model. A section was divided to house 12 individuals. They were given access to their own outdoor space set in a courtyard which was specially created in an interesting and stimulating way. The area is enclosed for safety. Each resident has their own room, however, the unit also has a small living room, dining room and a kitchenette. Both the interior and exterior spaces of the unit have design features suited to the capabilities of the client group. The unit is staffed by 5 persons who are specially trained (regarding the needs of the cognitively impaired) to carry out a number of functions. As a result of the new arrangement, staff at the facility have found that behavioral problems have been reduced to a minimum and the quality of life for all residents and staff has increased significantly. [162]

In summary, team members rated most of the multi unit forms of living arrangements quite favorably in terms of their ability to provide a carefree, safe and secure environment. These options were also seen as having tremendous potential to offer more of a "continuum of care" to those who do not wish to make more than one permanent move later in life.

3.2.3 Housing Designed for Seniors and Interdependence in the Community: Successful Approaches

What role can existing and new housing designed for seniors play in supporting people over age 75 in the community? In discussions throughout this report and in highlighting some of the more successful initiatives that are taking place that impact on the quality of life for older seniors, it is becoming clear that increased interfacing between services available in seniors' housing developments - both those specially designed for seniors and those more conventional options - and other community based support services, is beneficial for both elderly individuals and their families. This interdependence should be encouraged not only because it may be economically advantageous, but also because it can best promote the flexibility in service delivery required to meet the variety of needs that people 75 and over may have as they age. Maximizing the use of existing resources through co-operation also minimizes the potential for over consumption of services by some people.

There are basically three ways through which interdependence can be increased: (1) by making available new, smaller neighborhood based projects; (2) by using new and existing projects as service outreach centers for seniors in the surrounding community; and (3) by improving service delivery and co-ordination (as was discussed in Section 3.1.3).

Neighborhood Based Housing Designed for Seniors

One of the new trends in designing and building seniors' housing is to encourage the development of systems of small clusters of housing in neighborhoods with larger proportions of elderly homeowners. [36,66] There are a number of clear advantages to this approach. The first is that it complements the choice of older people to remain in their neighborhood close to friends and neighbors (and existing supports) and a familiar environment (the importance of which has been emphasized by Lawton [1988] and others). The second is that the market is close by and captured. (The success of this was demonstrated by the example of a non profit congregate housing development in Toronto described earlier on page 68. The third is that there is a greater chance that services in the surrounding community are well enough developed to be tied into the housing projects when needed. The fourth is that smaller developments that are architecturally and socially suited to an existing neighborhood are more likely to gain approval from city officials and surrounding neighbors; and the fifth advantage is that the facilities in the housing projects can also serve the surrounding community.

There are a number of ways this approach might work. One is called the "Satellite retirement/hostel housing concept", currently being promoted in Australia (Manitoba has a similar option included in their Support Services for Seniors Program). At the root of the approach is an existing hostel facility (which could be a nursing home or a seniors' center, for example) from which support services can be delivered. The clusters of elderly housing are located within a 20-minute drive from this facility.

Ideally each cluster should include between 4 and 25 units, and the system of clusters should have not less than 25-30 units. The location of the clusters should be in one line of travel from the hostel facility, and the total number of units serviced should total about 75. [36] Figures C-2 - C-4 in Appendix C illustrate some of the different models possible.

There are many variations of this concept that are possible and the clusters can take a number of forms depending on the local community. They can be newly constructed one bedroom self contained conventional homes; they can be small infill developments (an example of this exists in Regina, Saskatchewan for Native seniors); [55] they can be mobile homes or garden suites (currently being developed in the U.S. where 7-10 individual suites including one for a housekeeper are clustered together); they can be reconstructed units in existing housing (like the Philadelphia example given earlier on page 70); they can be existing seniors' apartments; or they can be smaller facilities (like a domiciliary home) where services are limited.

The concept can work in rural as well as urban centers. For instance, the non profit housing sector in Denmark has developed a similar option for retired farmers. It involves a cluster of five attached one storey self contained apartments with a central meeting area (includes a kitchen, lounge and toilet). The clusters have been built in nearby villages and are not staffed. Residents use existing community services. Since the project has been initiated, none of the residents have moved into a nursing facility in spite of the fact that many are in their late seventies and early eighties. [47]

The clusters can also occur naturally as in the case of an unplanned retirement community or neighborhood with higher than average concentrations of older people. (For a more complete discussion of this concept refer to Hunt, M.E. [66], Hunt, 1985). [82] In these instances, existing seniors' centers often serve the surrounding neighborhoods. The nature of the services provided, however, are changing. In one Ottawa center, typical of many others, both outreach services in the form of a home support program as well as a variety of on site amenities are offered to help seniors in an older core area of the city live as independently as possible in their own homes. The outreach services include information and referral, housecleaning, outside home maintenance, sitter and escort services, friendly visiting, transportation, assistance with shopping, and a telephone assurance program, among others. [60] The many on site services that are available to those in the community include fitness programs, meals, foot care, dental and hearing clinics, as well as volunteer opportunities.

Approaches in Outreach

The use of existing facilities as service centers to the surrounding community has been advocated by those [74] who claim that many of the on site amenities such as special whirlpool baths and baths with hydraulic lifts, for example, are being underutilized. Community support care services can be offered as part of a senior day program (discussed earlier) where elderly people from the surrounding neighborhoods are transported to the center to make use of the various programs. The benefits are obvious - a nurse who is sent out visits about 5 clients a day; if people were brought to the nurse he or she could probably see as many as 20 people a day. This approach will not be successful, however, unless concerns plaguing existing special transportation operators in many municipalities in Canada are addressed. For people over 75 with mobility related disabilities, ordinary transportation is inaccessible, yet the high demand for special transportation is such that many operators are having difficulty meeting schedules, an ongoing problem frustrating both the users and the operators. [122] The Hamilton, Ontario study on seniors' needs discussed earlier [136] recommended that one solution to this problem might be to subsidize taxi cab companies for the extra time it takes to service disabled people. In order to increase the potential for day programs to meet needs, new facilities must be neighborhood based so that distances are reduced.

Housing related amenities that serve the public both on site and off site can be fairly simple, like a restaurant or coffee shop. The B.C. Housing Management Commission recently carried out a study addressing "aging in place" to investigate the feasibility of introducing various congregate services, in particular meals, into some of their existing senior housing projects. They were surprised to learn that only about 20% of the tenants were interested in optional meals three times a week. There was interest, however, in having an adjacent restaurant open to both tenants and the public.

Another excellent example of how an existing development has been designed not only to integrate residents within the facility, but also to interface with the surrounding neighborhood, exists at a busy intersection in Toronto. The project, which is sponsored by an affiliated Church group, is made up of 127 independent seniors' apartments, twenty residential care apartments, twenty-five nursing home beds, eight apartments for disabled adults, a residence that houses five students, eight family townhouses and eight family apartments. It is the mix of people which makes this community unique. Its success may also be partly attributed to the ethnic cohesiveness that is promoted, however, not all residents have the same background. The cluster of buildings fit well into the existing neighborhood and has a landscaped courtyard.

The lobby of the main building contains a coffee shop and convenience store that is used by both residents and seniors in the surrounding neighborhood (the area has one of Metro Toronto's highest concentration of senior citizens). A combination of planning, design and location helps to make this particular community a very supportive environment for the aged tenants. [35]

There are many other excellent examples across the country where existing facilities have reached out to the public around them. Some provide strictly recreational opportunities; others have meal programs; still others offer day centers with a variety of services such as discussed above. The general consensus of the study team is that this direction should be further encouraged.

4.0 TECHNOLOGICAL ADVANCES IN ASSISTIVE DEVICES AND DESIGN

One of the areas that holds promise in maximizing a supportive environment for people 75 and over is the field of technology. Housing related technologies can significantly, often in very simple ways, enhance the safety and security features of a home. In many cases, particularly for people with functional difficulties, these innovations can mean the difference between the ability to maintain one's independence and increased dependency on others.

Scientists, engineers and researchers around the world are developing prototypes, testing new products and improving existing devices. (The Aging and Rehabilitation Product Development Project in Manitoba [see Appendix D-1 for a further description] is an example of how Canada is involving itself in this field). Service providers, academics and other professionals in the area of aging are responding to this new challenge as witnessed by a recent international conference in Florida devoted solely to this topic. [160]

Technological advances most familiar to Canadians today include products such as various types of emergency response systems and automatic shut off mechanisms for appliances, however, the number of recent innovations goes far beyond this in both assistive devices and design products. A few examples of these initiatives are presented here to illustrate how they might help people over 75 maintain control over their own lives, whether they continue to live at home or in a form of retirement housing.

4.1 Assistive Devices

There are many assistive devices available that are targeted at people with a variety of disabilities to help them cope with day to day living. Appendix D-2 presents a comprehensive list of the types of impairments common among the very elderly, their consequences and how present technology can respond. [113] Although most of these devices exist in Canada, their use is restricted by a general lack of awareness by both the public and many service providers.

4.1.1 Electronic Emergency Response

Among the more recent technologies gaining both exposure and use in Canada are various types of electronic emergency response devices. They can be utilized in systems that are linked to a hospital or nursing facility, such as the examples discussed in Section 3.1.3, however, they are not limited to an institutionally based service. Although their usefulness for the 75 and over has been clearly established, most seniors who might benefit from this simple device are still not using it. The details of how various systems actually operate have been presented elsewhere (see for example "The Study of Emergency Response Systems for the Elderly" by CMHC, 1988), however most operate using conventional telephone and personal computer technology.

In simplest terms, an emergency response device allows a person in an emergency (including accidents and falls, health difficulties, security problems such as home intrusions by strangers, fire, etc.) to summon help with the push of a button - either on an existing telephone or on a separate device that is worn on the body or mounted on a wall. In a recent evaluation of user response, [113] the majority of the users (mostly elderly women living alone) planned to keep their devices and continue to live at home. All found the system easy to use, although some respondents found their particular model (a chain with a transmitter in the form of a medallion) heavy and uncomfortable to wear.

4.1.2 Advances in Electronics and Robotics

Still considered quite revolutionary by today's standards are the recent advances made in the field of home electronics and robotics. Those described here include the "smart house" and the "electronic dwelling" as well as a number of examples of how robotic technology is being used in the home and care facilities.

The "Smart House" Concept

The "smart house" is a home wiring standard of the National Association of Home builders in the United States and is designed to provide a unified power/wiring system. [18] This system uses existing proven technology to replace traditional wiring systems with a cable and logic network that combines power, audio and video and data communication distribution.[149] Without going into the technical detail, the potential that this type of innovation has is the capability of interpreting events that occur in the environment and responding to those events in an "intelligent" way. The events could cover a wide range of possibilities, such as turning on a furnace that failed to come on, or turning off a stove that should have been turned off, to more sophisticated interactions with people such as monitoring movement (person who should not be in the house at that time) or lack of movement (an elderly person who fails to get out of bed at a certain time) within a house. [113] The possibilities are endless, but all can make a home a safer, more comfortable, and more secure environment for an elderly person. (A more detailed description of some of the "smart house" features can be found in Appendix D-3).

A type of "smart house" system which is currently available in department stores in Japan operates on a remote control basis the same as a T.V. or automatic garage door. The system allows bedridden people to adjust things like the temperature in their room, the lighting, and the ventilation (opening and closing windows) as well as a whole host of other events around them.

A similar prototype, called the "electronic dwelling" is being demonstrated in Denmark. One flat in a new housing development for the elderly has been outfitted with electronically operated functions that are centrally controlled from a wall mounted panel. The home's features include: a peephole with a video camera that transmits the picture to a T.V. screen, an electronic letter box with a light that automatically turns on when mail is delivered, an electronic door and window opener with remote control, electronic operation of the stove and oven, as well as automatic switch on/off for the radio and T.V. [19] All the flats in the development can be converted as the need arises with just a few changes.

Robotic Devices

Advances in robotic devices that assist people who are physically or mentally impaired with ordinary everyday activities can range from individual devices such as portable hydraulic lifts for the bathtub to interactive devices such as remote control systems or robotics. Japan is currently experimenting with the use of robotics in a purpose built facility or home for the elderly. The use of robots to carry out some of the functions usually performed by care assistants is seen as a solution to reducing stress among workers or caregivers as well as addressing the problem of skilled worker shortages. [66] At the same time, robotics can increase the independence of bedridden and severely disabled elderly people.

For the severely disabled person, robotic devices being tested in other countries include monitoring and alerting systems, incontinence retraining, driving assistance, multi functional beds that allow individuals to wash or use a toilet without leaving the bed, and transfer lifts which can be operated by the user or an assistant between the bed and another location. The roboticized home (much like the "smart house" described above) permits the bedridden to control the environment of the room, see through a T.V. monitor who is at the front door, admit the person or relay a message, call up reading material on another monitor, etc. [66] This option uses a simple computer such as an Apple II. It is also possible to link diagnostic equipment from the bed to a doctor's office so that the doctor and user can communicate through television screens. This advance has implications for a program such as "hospital at home" described earlier.

Robots have been invented that can transport meals, assist with eating and deliver medications. However, there may be a limit in terms of what the public is willing to accept with regard to this new approach to caregiving.

4.2 Advances in Design

Strides have been made in both simple and more advanced technological design aids that could greatly improve the daily living environments of the elderly and disabled and allow people to remain at home. Some of these products are aimed at making total living spaces more flexible so that as needs change so can the space. Others are more specific design aids (such as levered handles on doors and taps, grab bars and railings, ramps and lifts, specially designed furniture, etc.) incorporated into the home to make day to day activities less of a burden for physically disabled or elderly occupants. Still others are practical tools and products such as specially designed tableware, kitchen and bedroom aids aimed at providing independence to those with limitations living alone.

4.2.1 Changing Spaces

An example of one of these new directions comes from Japan. Since 1980, the Japanese Ministry of International Trade and Industry has funded a research program whose goal was to develop housing with functional flexibility that could change as the occupants' needs changed through partial remodelling, replacing components, installing self help equipment or by constructing extra space. A prototype house was designed for change in four stages - (1) self care level, (2) partial ambulatory care level, (3) personal care level with a full time wheel chair user, and (4) a nursing and medical care level with a bedridden elderly occupant. [66] (Design details are provided in Appendix D-4).

This concept could be incorporated into portable options such as the garden suite allowing occupants to remain there even if a serious impairment occurs. It could also be beneficial in a congregate setting or multi level care facility and could reduce the anxiety of an invalid elderly person in a long term setting who is forced to move between care levels. Using this model, the space would move rather than the individual. There are instances in Canada where portable spaces are being used (i.e., a multi level care facility near Victoria, B.C.), however, little is known about how well they work in our country. Further research is warranted.

4.2.2 Adaptable Housing

Adaptable housing is a concept that has evolved over the last decade in the United States in response to a growing dissatisfaction with many traditional forms of accessible housing. Cited problems have included inappropriate design details, inadequate space for families, clinical appearance, high vacancy rates, limited numbers and poor locations. [9] An adaptable housing unit is an accessible dwelling designed and built to eliminate that "special" appearance both on the exterior as well as interior.

On the exterior adaptable homes have entrance ways that serve as ramps for wheel chairs but have the appearance of attractively landscaped walkways. The home has both permanent accessibility features as well as ones that can be modified depending on need. For instance all units are built with wider doorways, no steps at the entrance, switches and controls that are mounted low, and most rooms and space located along an accessible route. Because the basic structure is designed to be accessible, most adaptations are non structural in nature. These include changing counter and sink heights; removing a cabinet to reveal a knee space under the work surface, kitchen sink, and bathroom lavatory; and attaching grab bars if needed. [9]

The benefits of this concept have been recognized and some States have incorporated the adaptable housing concept in their building codes as an alternative to fixed accessible housing. This design approach has the flexibility to appropriately meet the needs of disabled residents, however, is also suitable and desirable for non disabled people. In some jurisdictions, where landlords were having difficulty renting fixed accessible units, the adaptable housing approach has provided a way to build more apartments that would meet everyone's needs. [9]

4.2.3 Design Aids and Practical Tools to Assist Daily Living

While a more "holistic" approach to improving accessibility such as those just discussed are ideal, there are numerous more specific design aids which can be incorporated into a home at any time. Most of these products are being utilized in other countries and, although they are gaining recognition here, they are still rarely found in Canadian living spaces. Cost is a large factor, however, general attitudes towards change also play a role.

The list of innovations mentioned here originate in a variety of countries including Canada and are examples of how universal design products can meet the constraints not only of the disabled elderly but people of all ages with or without disabilities. Some of the products include adjustable height kitchen units which are electronically operated from a control panel on the face of the counter, as well as adjustable height wash basins with a bench and a hand held shower mounted on the back of the wash basin panel. For elderly with upper limb weaknesses or instability, the sink has a specially designed recess to steady arm movements while washing or showering. [66]

Denmark has marketed a universal design wash basin for use by all members of the family. It is easily adjusted with the use of a lever that lowers or raises the sink. The same organization also developed a specially designed toilet seat with or without armrests and lift features for frail elders. A similar product has been designed in Canada. The lift apparatus is operated using only a simple hand movement, allowing users with weak leg muscles or hip and knee flexion restrictions to raise and lower themselves without assistance from anyone else. [138] Along the same theme, scientists in Switzerland invented a toilet (now available in Canada and used in combination with the lift toilet) that combines a douche and toilet along with warm air drying.

In addition to the aids just discussed there are many appropriately designed tools and products which can help people undertake basic activities of daily living by their own efforts instead of being forced to rely on others. One recent catalogue (Medical/Aids For Daily Living) listed close to 100 different types of products specially designed for people with mobility related difficulties. Included were tableware and cutlery; a variety of different bottle and jar openers; combination shopping carts and walkers; bathroom accessories such as bath cushions, toothpaste dispensers, etc.; kitchen aids such as tap turners and kettle tippers; household aids including key turners, garden tools, door knob turners, needle threaders; bed and chair raisers; and dressing aids such as long handled shoe horns and stocking aids.

In summary, the usefulness of these advances is obvious for people 75 and over with disabilities that limit their movements. However, the reality is that many of these products are not readily available (and at an affordable cost) to today's seniors. Public unawareness and acceptance also plays a large role as to why many of these innovations are more widely used in other jurisdictions than in North America. Creativity in housing design is often stifled by strict building codes standards. [66] As well, the attitudes of both the designer and the consumer must change before a more universal approach to good design is accepted. [101]

There is no doubt, however, that technology will play a very strong role in housing tomorrow's older seniors.

5.0 THE NEXT STEP

The study team was asked, in very general terms, to provide some direction with respect to advancing housing solutions for Canadians 75 years of age and over. The report has presented a tremendous amount of detailed discussion about numerous options available in Canada and elsewhere. In order to make these options more of a reality, five general areas must be addressed. They are: (1) Research; (2) Knowledge; (3) Co-ordination; (4) Process; and (5) Education.

5.1 Research

The study team feels strongly about the need for relevant research to support housing initiatives. The types of research needed include carrying out:

- needs assessments and feasibility studies at local levels to assist planners and developers in making sound decisions;
- pilot projects and evaluative research of new options;
- evaluative research of solutions in other countries in order to assess whether or not they would be feasible and effective in Canada;
- longitudinal research in particular housing options with comparable samples from the community.

Local authorities, such as municipal housing offices, need to be encouraged and supported in efforts to facilitate research. Research tools that are appropriate for use at the local level must be explored, developed where necessary, and distributed to appropriate local bodies. As well, all local pilot projects should have an evaluative component.

Longitudinal research, more common in the U.S. than in Canada, can be very costly. It is necessary for housing, health, and social services to come together to support population based research that will best address many of the unknown factors about which solution might work for Canadians.

5.2 Knowledge

Ways of improving information flow to all sectors is seen as a high priority. Lack of awareness on the part of the public, the service deliverers, the planners, and the developers about housing related options, including assistive devices and technological advances, has been identified in many studies as a main barrier to housing the 75+ population.

Mechanisms to improve information flow need to be explored. Familiarity with a new phenomenon such as the greying of Canada is a prerequisite of action by the public at large or its elected representatives. There is a responsibility on the part of those in the fields of gerontology and geriatrics to share information with the media and to stimulate discussion on a variety of solutions. The implications of the "keep seniors out of institutions" movement is only now being recognized. The quantity and quality of health and social services needed to serve a rapidly expanding seniors' population is overwhelming agencies mandated to meet the demand. A variety of options are needed to satisfy a wide range of situations, needs and preferences.

Results of research studies in the form of videos, as well as written reports, should be distributed to appropriate parties. National seniors' organizations could be used to disseminate literature to its members, as could local real estate offices. Local initiatives, such as the development of a detailed inventory of purpose built housing for seniors recently completed in the Region of Ottawa-Carleton by the Council on Aging, should be supported. Conferences such as the housing conference sponsored by CMHC in Halifax, Nova Scotia, October 17-20, 1988: "Options: Housing for Older Canadians" brought together a wide variety of people interested in many aspects of housing Canadian seniors. The impact of this conference should be examined in future years to learn the need for other stimuli. CMHC also undertook an Awards Program in 1988 to familiarize Canadians with examples of good housing solutions for older Canadians. These initiatives should provide leadership to other levels of government and non-government agencies to examine what they can do to educate and encourage contributions to improving housing for seniors.

5.3 Co-ordination

Difficulties with co-ordination have been identified repeatedly by agency key informants as a major barrier to the delivery of services to seniors, and it is a concern that has not gone unrecognized by local and provincial authorities. There are no easy solutions. This report has highlighted a number of models that take different approaches to the delivery of services to high risk people. Some of the models tie the services directly to the individual, such as the "Community Options" program in Australia; others link the services to the place (such as the Support Services to Seniors Program in Manitoba). What these approaches have in common is that they are successfully supporting many older people in the community.

5.4 Process

One of the hard facts to be addressed in discussing housing is land - who owns it, who has access to it, and what does it cost? The other is money - who will provide it and at what cost? Land for senior citizen housing must be well located - close to amenities and support services, and most importantly, close to good public transportation. The churches and different levels of government own land that, under favourable circumstances, they will make available at affordable prices. The private land owner is, naturally, most interested in realizing a good profit. Sometimes governments and private land owners can structure an agreement that can be beneficial to both sides while at the same time providing land for affordable housing. Having the government at the table together with a private developer, and consumers with equity from the sale of their homes, provides legitimacy and minimizes risk. Mortgage insurance is a good example of this type of partnership.

Many churches, ethnic groups and other non-profit organizations have sponsored housing for seniors, but there is a potential for much more activity than we have seen to date. Team members agreed that in order to appropriately serve the 75+ group, effort will have to be applied to provide the required combination of accommodation and support services. Now that CMHC is no longer delivering the bulk of non profit housing, the role of resource groups with a track record may have a greater potential. However, it may be necessary for government to act as a catalyst to bring partners together and facilitate financing.

One key factor would be to develop ways of providing these non-profit organizations with access to start-up funding and interim financing in situations where they are developing resident funded seniors' housing projects.

To summarize, team members agreed that there were opportunities for public-private partnerships and that the third sector (volunteer) could also play a significant role in these arrangements. It was felt that in order for such partnerships to be successful, ways must be found to provide support in the following areas:

- technical assistance
- management assistance
- access to financing

It was also agreed that seniors organizations could play a major role in identifying what seniors really need and prefer, and in encouraging the development of appropriate seniors' housing.

5.5 Education

Finally, since management of multi-unit arrangements will be a crucial element, both in the public and private sector, ways to further support education programs for housing and facility managers and support staff, as well as housing educators, should be explored.

One of the most critical barriers is finding the money to train staff and to deliver services. In the health field, Canada developed a health insurance system to meet the health needs of all Canadians regardless of income. Perhaps it is also worth exploring the potential for a social service delivery system based on the same principles. Community social service centres could be established to provide seniors with the supports needed to help them maintain their independence. Adult children could supplement their assistance with the help of the centre. The Home Support Program in Ontario is moving in this direction.

Another barrier to finding solutions is the lack of demand from informed consumers. Most seniors from the youngest to the oldest are not aware of the design features and environmental requirements (social and physical) they should be considering in order to carry them successfully through the later stages of their life. A creative educational program is needed to help people recognize what they should look for in their housing and support systems. To arrive at good answers, well formulated questions must be developed. The general public will be more responsive if they are given information to help them form the questions. There is broad agreement that whatever solutions are identified, they must include a range of choice, such that each individual can access the most appropriate solution to their personal circumstances.

This study has shown that there are many new and innovative housing choices for people over age 75. Some are already being realized in Canada, others exist in jurisdictions outside Canada. All are possible. The examples highlighted in this report were judged by the study team to have the most potential given the established criteria and the characteristics of the target group. However, it is important to point out that the evaluation method used here serves only as a tool for assisting researchers to digest volumes of relevant material and to be able to draw some preliminary conclusions.

The study team agreed that housing solutions that utilized existing resources were most promising given all the criteria, and should be further encouraged. The report gives many examples of how this can be achieved, not only through conversions of existing housing stock, (such as adding a sheltered housing option), but also by encouraging more outreach activities from existing facilities. With respect to new purpose built housing developments, those that are located in neighbourhoods with well developed services for seniors, or provide a more comprehensive package of services on site, while at the same time, respecting a resident's desire for space and privacy, appear to have a higher chance of success.

This effort should be considered an exploratory one aimed at giving the reader an overview of the many issues and alternatives related to housing older seniors in Canada. In order to come a step closer to making some of the more promising options a reality for Canadians, further in depth studies should be carried out and more pilot projects, including demonstrations, should be encouraged.

APPENDIX A - 1

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Royal Canadian Legion of Nova Scotia
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American Association of Retired Persons (AARP)
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Committee on Architecture for Health: Design for Aging
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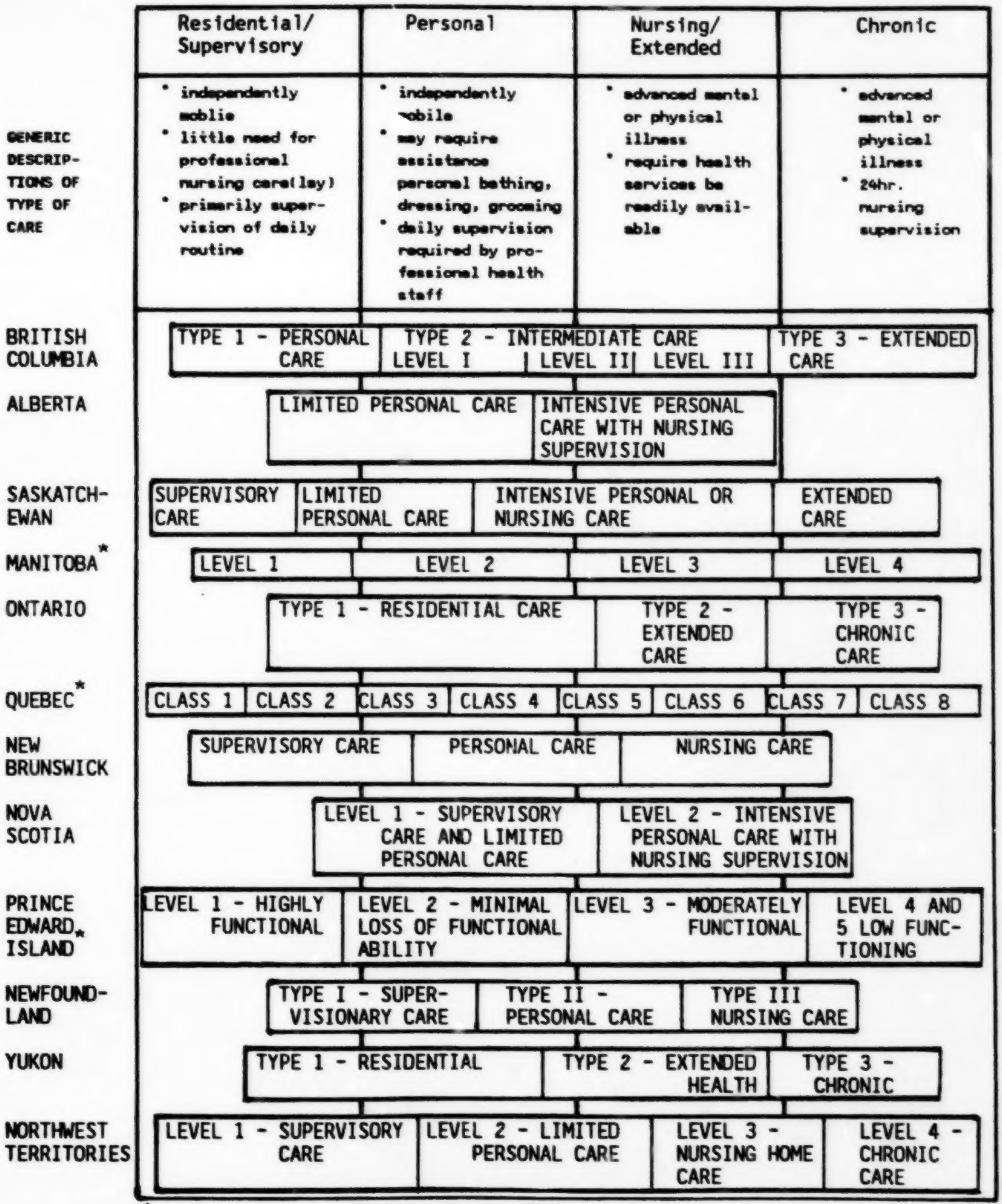
APPENDIX B

FIGURE B - 1 TYPES AND LEVEL OF CARE AVAILABLE IN CANADA

TABLE B - 1 CONSENSUS DAY RATING OF AVAILABLE HOUSING OPTIONS FOR PEOPLE OVER 75

FIGURE B - 1: TYPES AND LEVEL OF CARE AVAILABLE IN CANADA



	Residential/ Supervisory	Personal	Nursing/ Extended	Chronic
GENERIC DESCRIPTIONS OF TYPE OF CARE	• independently moblie • little need for professional nursing care(lay) • primarily supervision of daily routine	• independently mobile • may require assistance personal bathing, dressing, grooming • daily supervision required by professional health staff	• advanced mental or physical illness • require health services be readily available	• advanced mental or physical illness • 24hr. nursing supervision

BRITISH COLUMBIA	TYPE 1 - PERSONAL CARE TYPE 2 - INTERMEDIATE CARE: LEVEL I | LEVEL II | LEVEL III TYPE 3 - EXTENDED CARE
ALBERTA	LIMITED PERSONAL CARE INTENSIVE PERSONAL CARE WITH NURSING SUPERVISION
SASKATCHEWAN	SUPERVISORY CARE LIMITED PERSONAL CARE INTENSIVE PERSONAL OR NURSING CARE EXTENDED CARE
MANITOBA*	LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4
ONTARIO	TYPE 1 - RESIDENTIAL CARE TYPE 2 - EXTENDED CARE TYPE 3 - CHRONIC CARE
QUEBEC*	CLASS 1 CLASS 2 CLASS 3 CLASS 4 CLASS 5 CLASS 6 CLASS 7 CLASS 8
NEW BRUNSWICK	SUPERVISORY CARE PERSONAL CARE NURSING CARE
NOVA SCOTIA	LEVEL 1 - SUPERVISORY CARE AND LIMITED PERSONAL CARE LEVEL 2 - INTENSIVE PERSONAL CARE WITH NURSING SUPERVISION
PRINCE EDWARD ISLAND*	LEVEL 1 - HIGHLY FUNCTIONAL LEVEL 2 - MINIMAL LOSS OF FUNCTIONAL ABILITY LEVEL 3 - MODERATELY FUNCTIONAL LEVEL 4 AND 5 LOW FUNCTIONING
NEWFOUNDLAND	TYPE I - SUPERVISIONARY CARE TYPE II - PERSONAL CARE TYPE III NURSING CARE
YUKON	TYPE 1 - RESIDENTIAL TYPE 2 - EXTENDED HEALTH TYPE 3 - CHRONIC
NORTHWEST TERRITORIES	LEVEL 1 - SUPERVISORY CARE LEVEL 2 - LIMITED PERSONAL CARE LEVEL 3 - NURSING HOME CARE LEVEL 4 - CHRONIC CARE

* These provinces define "Types of Care" in a slightly different manner.

TABLE B - 1

CONSENSUS DAY RATING OF AVAILABLE HOUSING OPTIONS FOR PEOPLE OVER 75

	CRITICAL CRITERIA			
	Carefree Living	Safety and Secuity	Access to Support Services	Access to Amenities
STAYING				
Conventional homes with no changes	3	3	2.5	2.5
Conventional homes with changes	2	2	2.5	2.5
Sharing a home	1	2	2	2
Adding an apartment	1	2	2	2
Moving				
Condo and rental	1	2.5	2.5	2
Co-op housing	1	2	2	2
Bi-family housing	1	2	2	2
Foster homes	1	2	2.5	2.5
The Garden Suite	1	1.5	2	2
Retirement villages	1	1.5	2	2
Congregate housing	1	1.5	2	2
The Abbeyfield Model	1	1.5	1.5	1.5
Extra care	1	1	1	1
Sheltered housing	1	1.5	1.5	1.5
Very Sheltered housing	1	1	1	1.5
Small group home	1	1.5	1.5	1.5
Multi-care	1	1	1.5	1

RATING: 1=HIGH, 2=MEDIUM, 3=LOW

APPENDIX C

FIGURE C - 1	AN EXAMPLE OF HOMESHARING: INTRODUCING THE SPLIT-WING SUITE
FIGURE C - 2	EXAMPLES OF COMMUNITY INTEGRATED SUPPORTIVE HOUSING: SINGLE UNITS/SMALL CLUSTERS
FIGURE C - 3	AN EXAMPLE OF COMMUNITY INTEGRATED SUPPORTIVE HOUSING: A SYSTEM OF SMALL CLUSTERS
FIGURE C - 4	AN EXAMPLE OF COMMUNITY INTEGRATED SUPPORTIVE HOUSING: A COLLECTION OF THREE SYSTEMS OF VARIOUS SIZED CLUSTERS

FIGURE C - 1 AN EXAMPLE OF HOMESHARING

INTRODUCING THE SPLIT-WING SUITE.

WINDFIELD
TERRACE

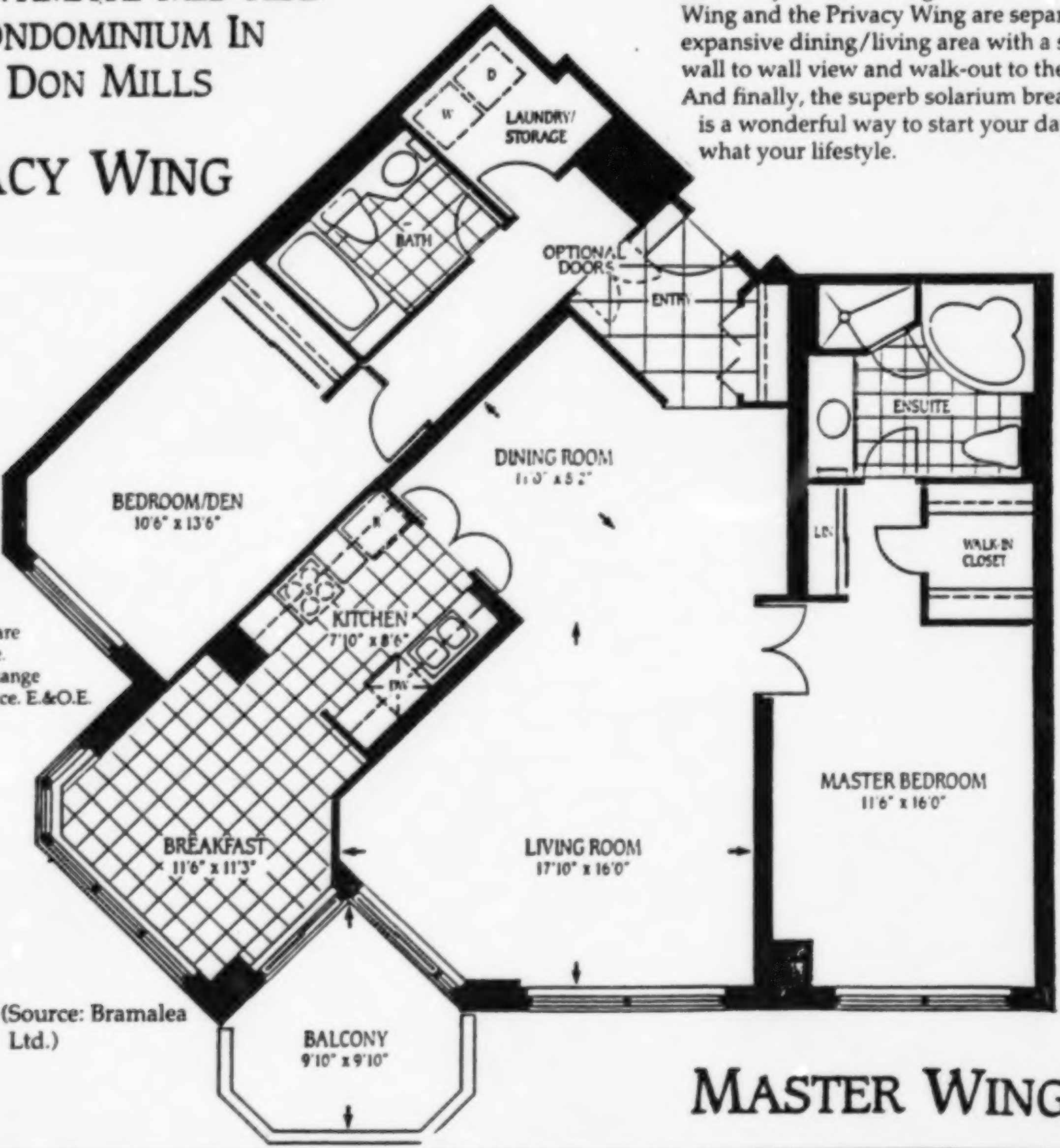
AN INTIMATE MID-RISE
CONDOMINIUM IN
DON MILLS

At last ! The split-wing suite is here! It's the definitive privacy answer for today's many different lifestyles:

Privacy. For the retired couple who love to welcome out of town friends and family.

Privacy. For two adults who wish to share a condo but need their own space.

Privacy. For parents who still have a teenager or university student living at home. The Master Wing and the Privacy Wing are separated by an expansive dining/living area with a spectacular wall to wall view and walk-out to the balcony. And finally, the superb solarium breakfast room is a wonderful way to start your day no matter what your lifestyle.

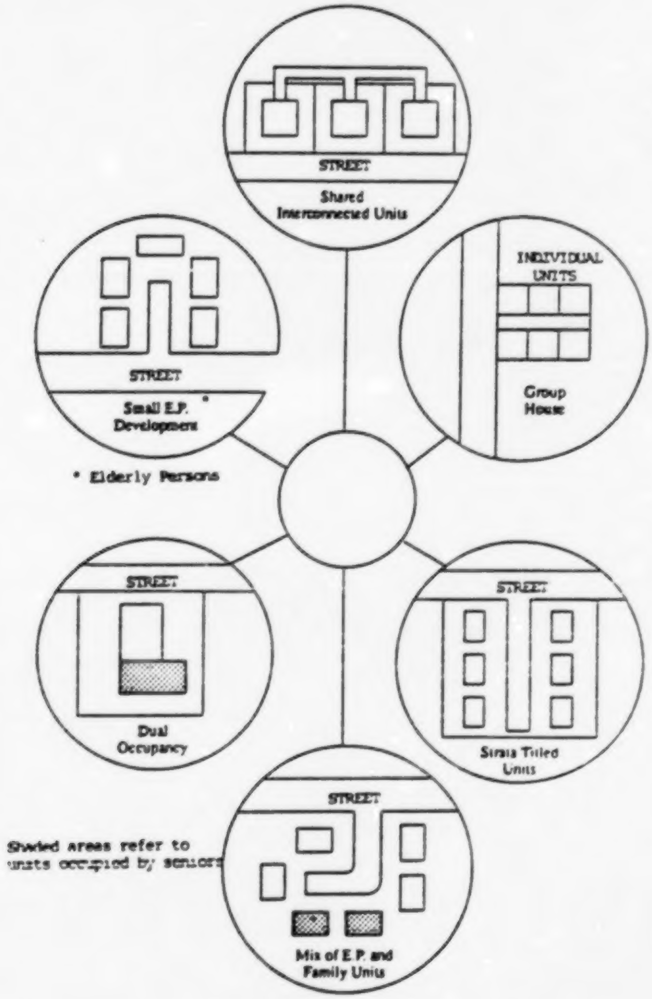

PRIVACY WING
W
D
LAUNDRY/ STORAGE
BATH
OPTIONAL DOORS
ENTRY
ENSUITE
LIN
WALK-IN CLOSET
DINING ROOM 11'0" x 8'2"
BEDROOM/DEN 10'6" x 13'6"
KITCHEN 7'10" x 8'6"
DW
MASTER BEDROOM 11'6" x 16'0"
LIVING ROOM 17'10" x 16'0"
BREAKFAST 11'6" x 11'3"
BALCONY 9'10" x 9'10"
MASTER WING

Room sizes are approximate. Subject to change without notice. E.&O.E.

Figure 13 (Source: Bramalea Ltd.)

FIGURE C - 2: EXAMPLES OF COMMUNITY INTEGRATED SUPPORTIVE HOUSING: SINGLE UNITS/SMALL CLUSTERS

With the greater emphasis on domiciliary services and outside nursing care in Australia, greater flexibility in the design of accommodation and hence greater opportunity for innovation by builders in consultation with the agencies. The following diagram summarises a possible future model.


STREET
Shared Interconnected Units
INDIVIDUAL UNITS
Group House
STREET
Small E.P.* Development
STREET
Dual Occupancy
STREET
Strata Titled Units
STREET
Mix of E.P. and Family Units

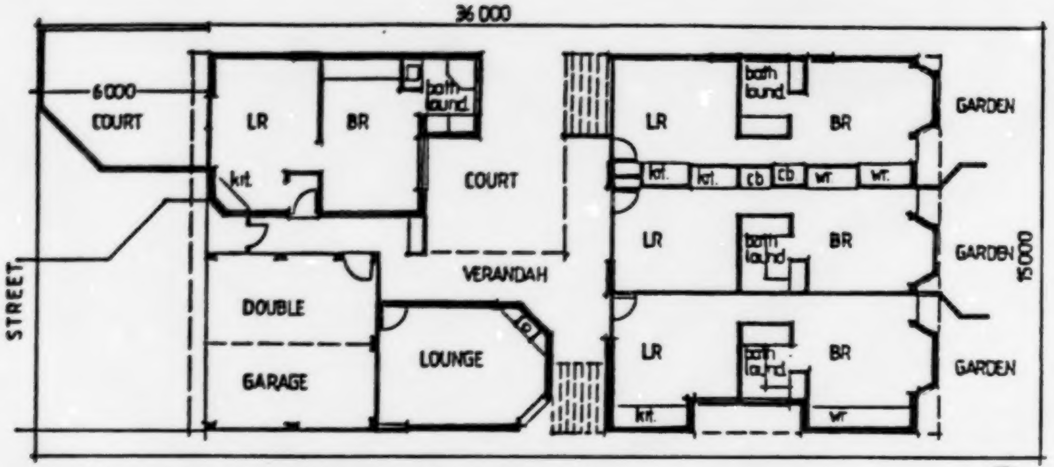
* Elderly Persons

Shaded areas refer to units occupied by seniors

Source: **"Future Directions in the Provision of Housing for the Aged by the Church Sector" by the Housing Policy and Development Unit of the Victorian Council of Churches, Melbourne, Australia.**

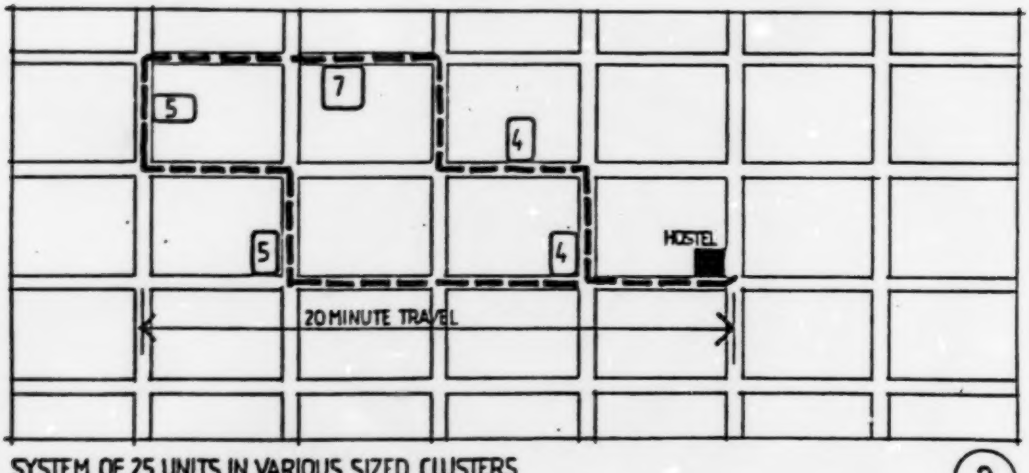
FIGURE C - 3: AN EXAMPLE OF COMMUNITY INTEGRATED SUPPORTIVE HOUSING: A SYSTEM OF SMALL CLUSTERS

This drawing has been reprinted by permission from PETER DALTON PTY LIMITED, Sydney, Australia, from the paper entitled "New Concepts in the Development of Retirement Housing and Services for the Commercial and Voluntary Sectors".


36 000
6000
COURT
LR
BR
bath laund
kit.
COURT
VERANDAH
DOUBLE
GARAGE
LOUNGE
STREET
LR
BR
bath laund
kit.
kit.
cb
cb
wr
wr
LR
BR
bath laund
LR
BR
bath laund
kit.
wr
GARDEN
GARDEN
GARDEN
15000

TYPICAL SITE LAYOUT FOR CLUSTER OF FOUR 1 BEDROOM 50M2 UNITS WITH COMMON LOUNGE AND 2 GARAGES ON 15×36 METRE (540 M2) SUBURBAN BLOCK.

①


5
7
4
5
4
HOSTEL
20 MINUTE TRAVEL

SYSTEM OF 25 UNITS IN VARIOUS SIZED CLUSTERS AROUND AN EXISTING HOSTEL

②

PHYSICAL PLANNING CONCEPT

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FIGURE C - 4: AN EXAMPLE OF COMMUNITY INTEGRATED SUPPORTING HOUSING: A COLLECTION OF THREE SYSTEMS OF VARIOUS SIZED CLUSTERS

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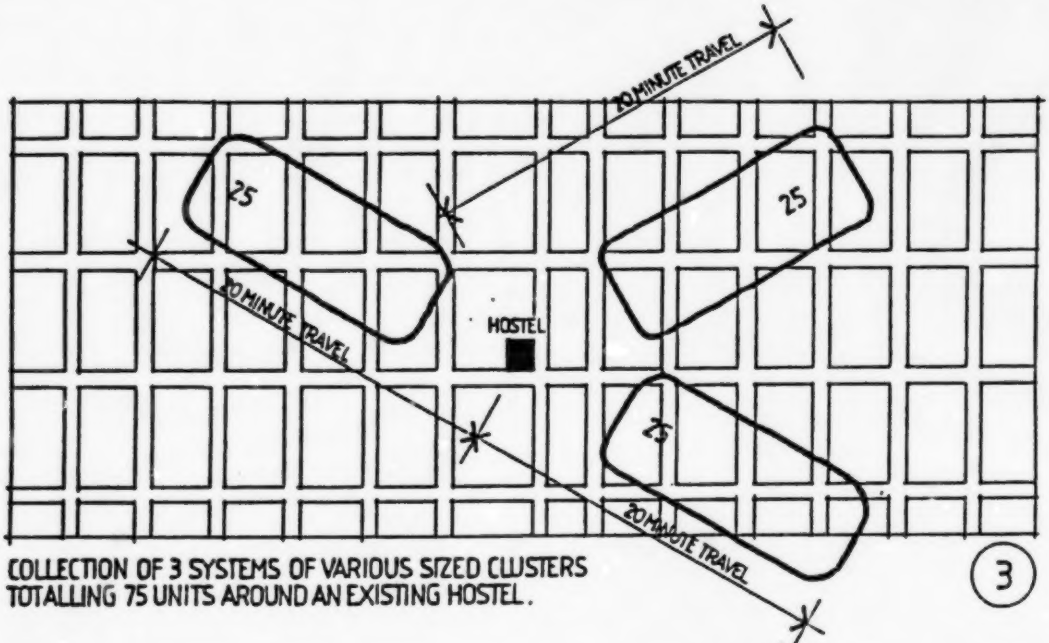
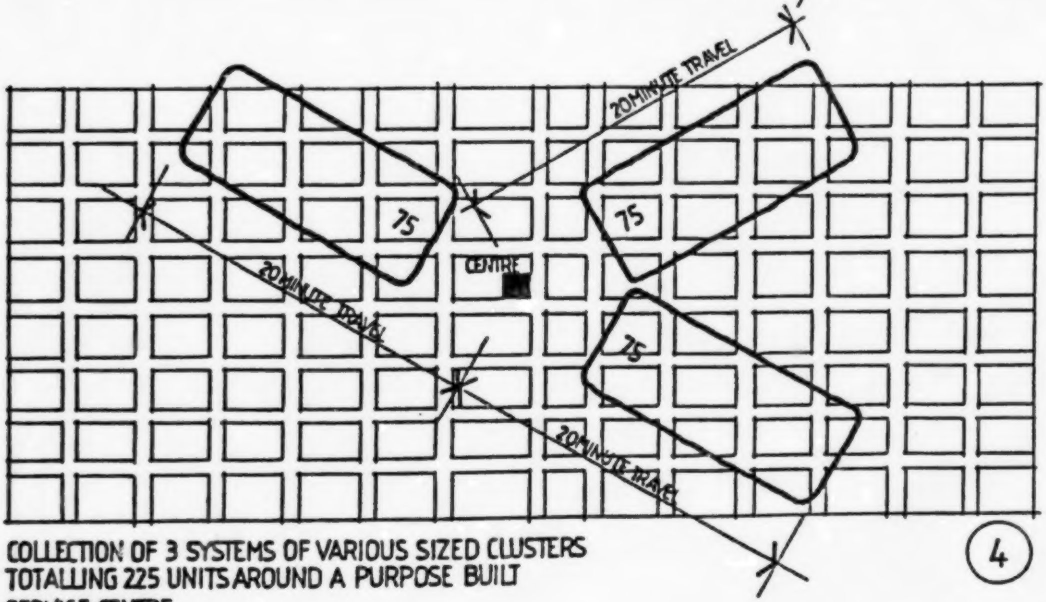

20 MINUTE TRAVEL
25
25
HOSTEL
20 MINUTE TRAVEL
25
20 MINUTE TRAVEL
3

COLLECTION OF 3 SYSTEMS OF VARIOUS SIZED CLUSTERS TOTALLING 75 UNITS AROUND AN EXISTING HOSTEL.


20 MINUTE TRAVEL
75
75
CENTRE
20 MINUTE TRAVEL
75
20 MINUTE TRAVEL
4

COLLECTION OF 3 SYSTEMS OF VARIOUS SIZED CLUSTERS TOTALLING 225 UNITS AROUND A PURPOSE BUILT SERVICE CENTRE

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APPENDIX D

FIGURE D - 1 THE MANITOBA AGING AND REHABILITATION PRODUCT DEVELOPMENT CENTRE

FIGURE D - 2 IMPAIRMENTS, CONSEQUENCES AND TECHNOLOGY

FIGURE D - 3 THE "SMART HOUSE" FEATURES

FIGURE D - 4 INNOVATIVE TECHNOLOGIES AND ENABLING ENVIRONMENTS

FIGURE D - 1

Aging & Rehabilitation Product Development Centre

Government of Canada
Western Economic Diversification

Gouvernement du Canada
Diversification de l'économie de l'Ouest

Government of Manitoba
Industry, Trade and Tourism

Gouvernement du Manitoba
Industrie, Commerce et Tourisme

Canada

Manitoba

AGING & REHABILITATION PRODUCT DEVELOPMENT CENTRE

FEDERAL AND PROVINCIAL GOVERNMENTS TO ESTABLISH HEALTH PRODUCTS DEVELOPMENT CENTRE

WINNIPEG, August 17, 1988 -- A $23.9 million health products development centre will be established to service Manitoba's growing health industries sector. The venture, funded by the Federal Department of Western Diversification and the Province of Manitoba, was announced jointly today by National Health and Welfare Minister Jake Epp, on behalf of Western Diversification Minister Bill McKnight; Manitoba Industry, Trade and Tourism Minister Jim Ernst; and Manitoba Health Minister Donald Orchard.

The initiative supports the announcement last week that Ministers Epp and Ernst have signed the Canada-Manitoba Health Industry Development Strategy. The strategy is designed to take advantage of significant economic growth opportunities in the health care field which will make Manitoba a unique and leading health industry centre in Canada.

"This centre will create national and international recognition of Manitoba's superior location for services and businesses in the field of aging and rehabilitation," said Epp. "It will also encourage efforts that enhance the quality of life of the elderly and disabled."

The Aging and Rehabilitation Product Development Centre will research, design, develop, test, and market products and services needed in caring for Canada's rapidly aging population, as well as for the disabled.

Under the Western Economic Diversification Program, the Government of Canada will contribute $9.6 million towards establishment of the centre with the Province providing $9.6 million to support the ongoing operation. Revenue will result primarily from research contracts, however, publication subscriptions are expected to generate an additional $4.7 million to complete financing requirements.

Ernst said the new Manitoba centre will grow from the established infrastructure of knowledge and skills in the health care industry, adding that the initiative "promises new industrial growth and diversification, new investment opportunities, new export potential for industrial concerns, and a strong boost for the enhancement of independent living for many Manitobans."

The initiative is expected to develop an estimated 35 new businesses and some 500 jobs in the private sector. These are in addition to 21 jobs to be directly created at the new centre and a further 21 jobs created in firms sub-contracting services.

A collaborative operation, the centre will assist provincial and national businesses to develop innovative and competitive products by providing market information, business brokerage services, product design, development, marketing and testing services.

Consumers will benefit by having greater access to a wider choice of tested, high quality products and services. Governments are expected to benefit through a reduction in hospital costs for individuals who may be able to rely less on institutional care.

The centre will be administered by a non-profit corporation through a Board of Directors in consultation with representatives from the health care industry and user groups. This Board will be responsible for recommending a site for the Winnipeg facility.

"This is a centre unique to North America," said Orchard. "No other locale has a facility dedicated to the development and testing of health products designed to care for Canada's aging population."

- 30 -

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Western Economic Diversification
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Reg Ebbeling
Industry, Trade and Tourism
Winnipeg
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FIGURE D - 2: IMPAIRMENTS, CONSEQUENCES AND TECHNOLOGIES

Table 3

	Further Consequences	Present Technology
Functional Impairment with Mobility		
- inability to: walk, climb stairs stand for long periods, bend	-difficulties moving around home, entering or leaving home, therefore no access to shopping, recreation, transportation, driving, participation in fitness/ exercise/sports - difficulty getting in and out of bed, turning in bed, - difficulty getting up from sitting position and using bathroom - in general increased risk of accidents, falls	- lightweight wheelchair, power wheelchair, scooters, special controls for power chairs i.e. head controls sip and puff, touch control systems, voice control wheelchair, van lifts, zero effort, steering for vans, SMART house, stair glides & elevator, improved artificial limbs, bionic limbs, porchlifts, improved access to transit, personal function aids, bathing, toiletting, transfer aids
inability to: reach, grasp, lift, push, control fine finger movement	- difficulties in dressing, grooming, food preparation feeding, carrying groceries, using telephone, picking up small objects - emotional and social problems	
Sensory Impairment - Vision		
- inability to see clearly, perceive colours, depth, inability to see peripherally	- unable to read for pleasure, business, safety - impaired ability to enjoy previous acitivites i.e. T.V., movies, artwork, nature, sports, theatre work and volunteer work - difficulty recognizing family and friends - difficulty using public transit - difficulty with personal grooming, awareness of health problems - safety concerns with: medications, food preparation (insects or mould), driving, walking alone or in new areas reading maps, street signs - emotional and social problems	- glasses/contact lens, large print books, audible signals in transit, elevators, laser cane, low vision aids,environmental design i.e. street signs lit, tactile cues, medical technology i.e. implants, surgery
Sensory Impairment - Hearing		
- inability to understand spoken word, (personal, T.V., radio etc), environmental noise (car horns, warning sounds, fire, police) household noise (timers, fire alarm, telephone, doorbell, stove timer, door and windows being opened) public events (speeches, religious meeting, cultural events, sports).	- lack of safety in home and outside - insecurity in dealing with business concerns - may appear confused or less intelligent - inability to sustain previous activities and relationships - emotional and social problems	- hearing aids, whistling kettles, food timers, answering machines, hearing aid compatible phones, wake up and signalling devices, aids to hear conversations, lectures and television, hand-held hearing aids, close-captioning telecommunications devices

	Further Consequences	Present Technology
Sensory Impairment		
- inability to pick up coins, needles papers, etc. distinguish fabrics, surfaces, open packages, letters, fasten buttons, zippers, snaps, broaches, etc. tie bows, laces, string react to temp. changes, sharp surfaces, react to odours, taste	- difficulties handling day to day activities, i.e. tidying, picking up dropped objects (safety hazard), handling money - inappropriate dressing and grooming - burns, cuts, body odours, food poisoning, high salt intake, high sugar intake, poor appetite	- reaching aids, magnetic aids, fire alarms, improved thermostat controls warning signals if temp. is too high or too low, smoke detectors, heat detectors and alarmfor existing stoves and appliances, infrared elements
Cognitive Impairment		
- inability to comprehend, remember, communicate thoughts, feelings, needs - inability to concentrate - inability to interpret sensory input	- inability to participate in previous activities at home, with family and society in business, culture and recreation pursuits - inability to care for self - danger to self and family and others i.e. wandering, driving, cannot express pain or need for health care - increased vulnerability to crime, being taken advantage of - emotional and social problems	- memory aids, alarm systems, SMART house - drug dispensing aids
Communication Impairment		
- loss or impairment of speech	- cannot express needs, feelings, thoughts - cannot participate in family, social activities, business/work/volunteer work - ADL are impaired, shopping, asking for advice/help/information, talking on telephone - fear of danger from lack of communication - emotional and social problems.	- communication board, special telephones, teletype communication - voice amplifiers - voice synthesizers - miniature printers/display boards - personal computers
Incontinence		
- loss or impairment in voluntary control of bladder and/or bowel	- skin breakdown, bladder infections, bladder stones, odour, discomfort, constipation - emotional and social problems	- disposable pants, pads - catheters, condom drainage, - external clamp (male), pessary (female) - electrical stimulator - ultrasonic sensor (experimental) - biofeedback and bladder retraining

Source: Metropolitan Toronto District Health Council, Technology for the Elderly, March, 1988

FIGURE D - 3: THE "SMART HOUSE" FEATURES

The SMART HOUSE Project will establish a revolutionary approach to the way homes and small buildings are wired -- the first such comprehensive change
in nearly 100 years. It offers home buyers extraordinary living benefits and opens a whole new world of home control and convenience.

The SMART HOUSE system will use existing, proven technology to replace traditional wiring systems with a cable and logic network that combines power, audio and video, and data communication distribution.

The system will eliminate the excessive wiring presently found in houses with a single integrated cable. Therefore, the SMART HOUSE system will provide efficiencies that can reduce housing costs, before and after the sale.

As with all great strides in technology -- the simpler, the better. The SMART HOUSE system promises to be simpler to install, simpler to maintain, and simpler to operate than present-day systems. It makes the most sophisticated state-of-the-art technology no more intimidating than turning on a light switch -- and in some cases, even less taxing.

Because the SMART HOUSE has the potential to simplify many manufacturers' requirements for conventional home appliances and devices, SMART HOUSE products will cost less and they will be easier and less expensive to operate and maintain.

Manufacturers -- over thirty of the nation's most prominent -- are spending tens of millions of dollars and enthusiastically combining their efforts to develop SMART HOUSE products. Theses private efforts are abetted by a host of national trade associations and federal agencies which look to the SMART HOUSE as a much-needed technology to keep the United States in the forefront of practical residential power and electronics.

Imagine a house in which:

- ° speakers and TV screens can be plugged into any outlet -- get the sound or picture from any radio, television, VCR, turntable, cassette deck, or cable TV tuner plugged in anywhere else in the house without stringing additional wires;
- ° you simply plug in a security system that can detect the presence of an intruder, make an announcement that the police have been notified, repeatedly flash the lights, and automatically call for help. The same hardware can assist fire rescue operations by flashing the lights in occupied rooms;
- ° Lights turn on automatically whenever someone walks into the room and, if it is desired, turn off when the room is empty;

- the house senses when the occupants of the master bedroom arise and signals the coffeemaker to turn on, the hot water heater to prepare for morning showers, and the TV to tune to the early news and weather program of your choice;
- the heating, cooling, and humidity control systems learn the behavior patterns of house occupants. The home environment will be automatically set just right when they come home, and alternately set to save energy (and money) when they are away.
- the occupant can turn any appliance on or off, or change any of its settings, by talking to it -- literally by speaking plain English commands to tell the house what to do;
- a telephone, intercom, or computer communications line can be plugged into any standard outlet;
- a motion detector can sense when an elderly person has not moved for a specified period. It causes a speaker to announce, "Are you okay?". If the system receives no response, it will automatically dial for assistance;
- dangerous appliances can be set so that small children will not be able to turn them on;
- a backup power system comes on during outages to power critical lighting, safety and security devices, and starters and controls for gas appliances; and
- the telephone can communicate with all appliances and devices in the SMART HOUSE. The home owner can call their own phone and find out whether there is any problem, or they can tell the appliances what to do -- begin cooking dinner, turn on lights, tune in some music, turn up the heat, open the front door, or anything else that suits their fancy. If there is an emergency, the SMART HOUSE can automatically call the owner, or whomever would be appropriate.

These are only examples of what is possible in a SMART HOUSE. In the 1990's and beyond, the ways in which people will use their SMART HOUSE features will be bound only by people's imaginations, not the home's wiring system.

Source: Smart House Development Venture, Incorporated, Upper Marlboro,
Maryland, 20772 - 8731 USA.

FIGURE D - 4: INNOVATIVE TECHNOLOGIES AND ENABLING ENVIRONMENTS

Reprinted by permission of the publisher from "Life Care: A Long-term Solution" by Robert D. Chellis and John Grayson (Lexington Books, D.C. Health and Company/Lexington, Massachusetts/Toronto/Copyright 1990 Lexington Books).

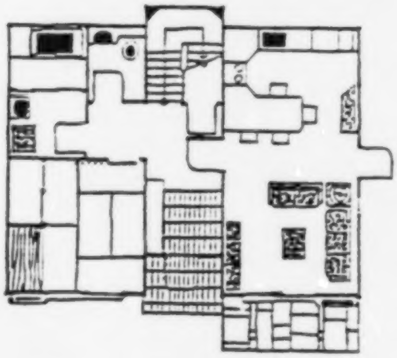
FIGURE D - 4: INNOVATIVE TECHNOLOGIES AND ENABLING ENVIRONMENTS

Since 1980, the Japanese Ministry of International Trade and Industry has funded a research program for Tokyo's Metropolitan Institute of Gerontology. The goal was to develop housing with functional flexibility that could change, as the occupant's needs changed, through partial remodelling, replacing components, installing self-help equipment or by constructing additional space.

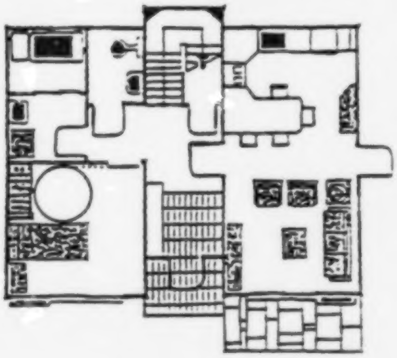
The principal researcher, Tamako Hayashi, developed a prototype of an innovative house for the elderly and handicapped with a prefabricated housing manufacturer, Sekisui House, Limited. The house was designed for change in four stages: self-care level, partial ambulatory care level, personal care level with a full-time wheelchair user, and nursing and medical care level with a bedridden elderly occupant. It was assumed that the residents were family related members and that one or two elder parents or relatives would be cared for by the family or with assistance from outside help when needed. The goal in stage four, was to reduce stress on the caregiver in sustaining a bedridden elder and encourage "life-care-at-home".

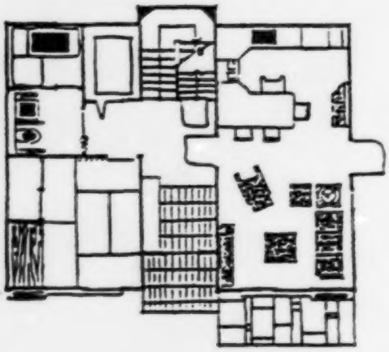
Besides the prefabricated housing manufacturer, the manufacturers of the various components of the house, such as those producing sanitary equipment, windows, electrical components, kitchen equipment, and companies involved with self-help equipment, such as electric lifters and environmental control systems, were included as part of the design team.

Level I House is a regular type house with average or above average architectural standards. Because it has various limitations for disabled persons, the research goal was to determine what type of phased alterations would permit an elderly person to remain as independent as possible as disabilities developed. In other words, how could the house adapt to permit "aging-in-place".

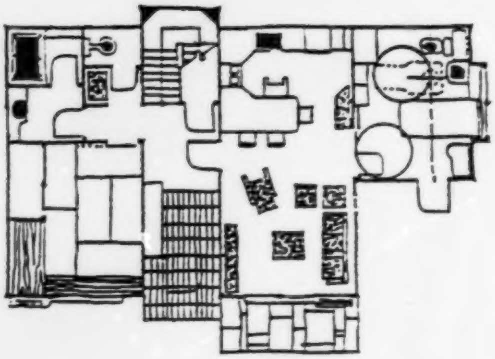


Level II House has been adapted to permit a wheelchair user to have a first floor bedroom by converting the traditional Japanese Tatami Room into a bedroom. The kitchen, living room area, toilet-bathing areas have in this example been designed for "universal" type use, and therefore are adaptable for the needs of all, including elderly or disabled persons.

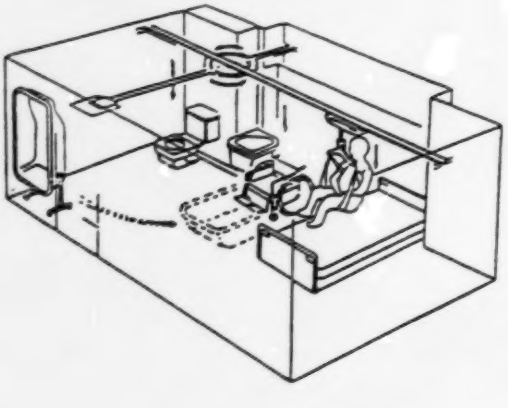




Level III House shows the installation of a lift to the second floor (the Japanese feel such an investment cost effective) and revision of the wash basin area next to the bathing area, into a handicapped accessible toilet. In this example, the traditional Japanese Tatami Room has been retained and an existing second floor bedroom is adapted for the disabled person.

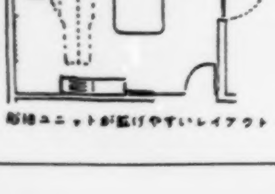


Level IV House has been expanded by the addition of a new room adjacent to the kitchen-dining-living area. The goal in designing this room for a severely disabled person was to provide all services as close to the person as possible, and therefore the toileting and bathing functions were brought to the room for the convenience of the occupant, and for maximising independence.

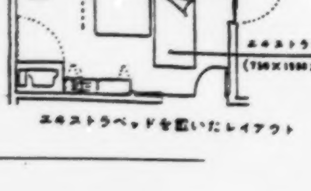


Level IV House prototype room which makes it possible for the most severely disabled to obtain a maximum of independence. This design provides as well a minimum amount of stress and strain on a caregiver by locating the water closet, wash basin within the room to reduce travel distance to these items traditionally located in another space in a house. Electrically operated equipment such as the ceiling hung lift can be operated by either the caregiver or disabled person to access the toilet, wash basin or wheelchair. Note the portable, fiberglass bathtub on a wheeled stand stored in the corner of the room. A caregiver can roll this unit out to the wash basin which is provided with a hose to fill the tub, and with a drain connection for emptying the tub.

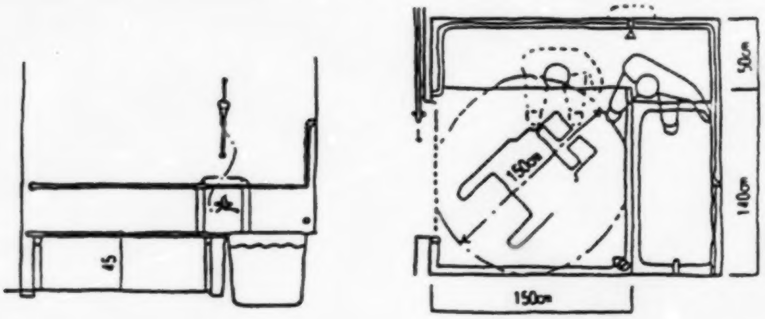
The Tokyo Institute of Gerontology has established this prototype design because they believe there is a growing social demand for this type of room as the number of disabled, and particularly bedridden elderly is greatly increasing



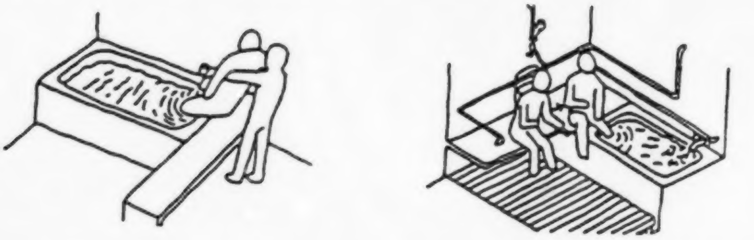
浴槽ユニットが広げやすいレイアウト



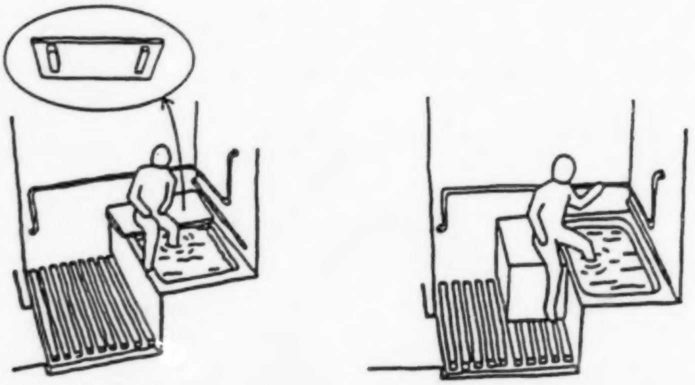
エキストラベッドを置いたレイアウト



Japanese approach in design of an accessible bathing space for a disabled person with upper arm mobility for independent bathing. Observr the wide shelf at tub-lip height and hand rail running along the wall, the flexible shower hose mounted on the wall over the shelf, permitting a shower bath while seated on the shelf, note the sliding door to the bathroom, clear turning radius for the wheelchair and the floor drain in a waterproofed floor.



Example of the adaptation of a typical Japanese tub room with a shelf-type bench, permitting self-help or attendant-help for elderly or disabled persons.



A do-it-yourself removable tub seat and a box seat adjacent to the tub with hand rail running along the wall for more accessible bathing.

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